CFS-66

US Model
Canadian Model

FM/AM STEREO CASSETTE-CORDER

SPECIFICATIONS

RADIO SECTION

Frequency Range:	FM 87.5–108 MHz AM 530–1,605 kHz (566–187 m)
Antennas:	FM: Telescopic antenna AM: Built-in ferrite bar antenna

TAPE RECORDER SECTION AND GENERAL

Recording System:	4-track 2-channel stereo
Fast Winding Time:	Approx. 1 min. 30 sec. with Sony Cassette C-60
Frequency Response:	40–10,000 Hz (with standard cassette, with the TAPE SELECT switch set to TYPE I (NORM)) 40–12,000 Hz (with chromium dioxide cassette, with the TAPE SELECT switch set to TYPE II (CrO_2)) 40–13,000 Hz (with Sony metal cassette, with the TAPE SELECT switch set to TYPE IV (METAL))
S/N:	37 dB
Total Harmonic Distortion:	5 %
Wow and Flutter:	0.14 % (WRMS)
Speakers:	Two-way: Approx. 16 cm (6½ inches) dia. woofers Approx. 4 cm (1½ inches) dia. tweeters
Power Output:	US model: 1 W x 2 (at 10% harmonic distortion) Canadian model: 3.5 W x 2 (at 10 % harmonic distortion) at dc operation

— Continued on page 2 —

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Tape Transport Mechanism Type	MDS-19S3

MICROFILM

SONY®

SERVICE MANUAL

4408

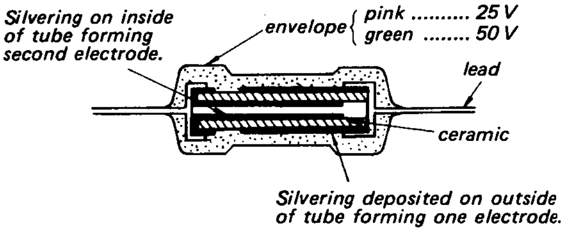
Inputs:	Two external microphone input jacks (minijack) sensitivity 0.39 mV (–66 dB) for low impedance microphone One mixing microphone input jack (minijack) for low impedance microphone sensitivity 0.78 mV (–60 dB) Two line input jacks (phono jack) sensitivity 0.25 V (–10 dB) input impedance 47 kΩ
Outputs:	Two line output jacks (phono jack) load impedance 10 kΩ or higher rated output 0.44 V (–5 dB) at load impedance 47 kΩ Two external speaker jacks (minijack) for 4 Ω to 8 Ω impedance speaker Headphone jack (stereo binaural jack) for 8 Ω impedance headphones
Power Requirements:	120 V ac adjustable, 60 Hz 12 V dc, eight batteries size D (IEC designation R20) 12 V car battery with optional Sony DCC-120 Car Battery Cord
Power Consumption:	18 W ac
Battery Life:	Approx. 15 hours of continuous recording with the built-in microphones using Eveready No.1250 Heavy Duty Batteries
Dimensions:	Approx. 520(w) x 252(h) x 146(d) mm 20½(w) x 10(h) x 5¾(d) inches incl. projecting parts and controls not incl. handle
Weight:	Approx. 6.5 kg (14 lb 5 oz) incl. batteries

THE CERAMIC CAPACITORS

This set uses tube-type ceramic capacitors whose shape is identical with the carbon resistors. Be careful not to use resistors instead of capacitors in repairing.

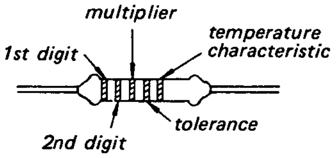
Disc-type ceramic capacitors can be used for replacing those originally used in the set.

Two kinds of drilled holes are provided in some patterns for mounting the tube-type and disc-type ceramic capacitors. Use appropriate holes where applicable.

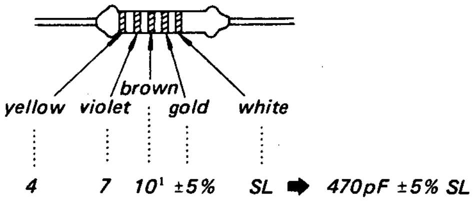

Silvering on inside of tube forming second electrode.
envelope { pink .... 25 V
green .... 50 V
lead
ceramic
Silvering deposited on outside of tube forming one electrode.

COLOR CODE (in pF)

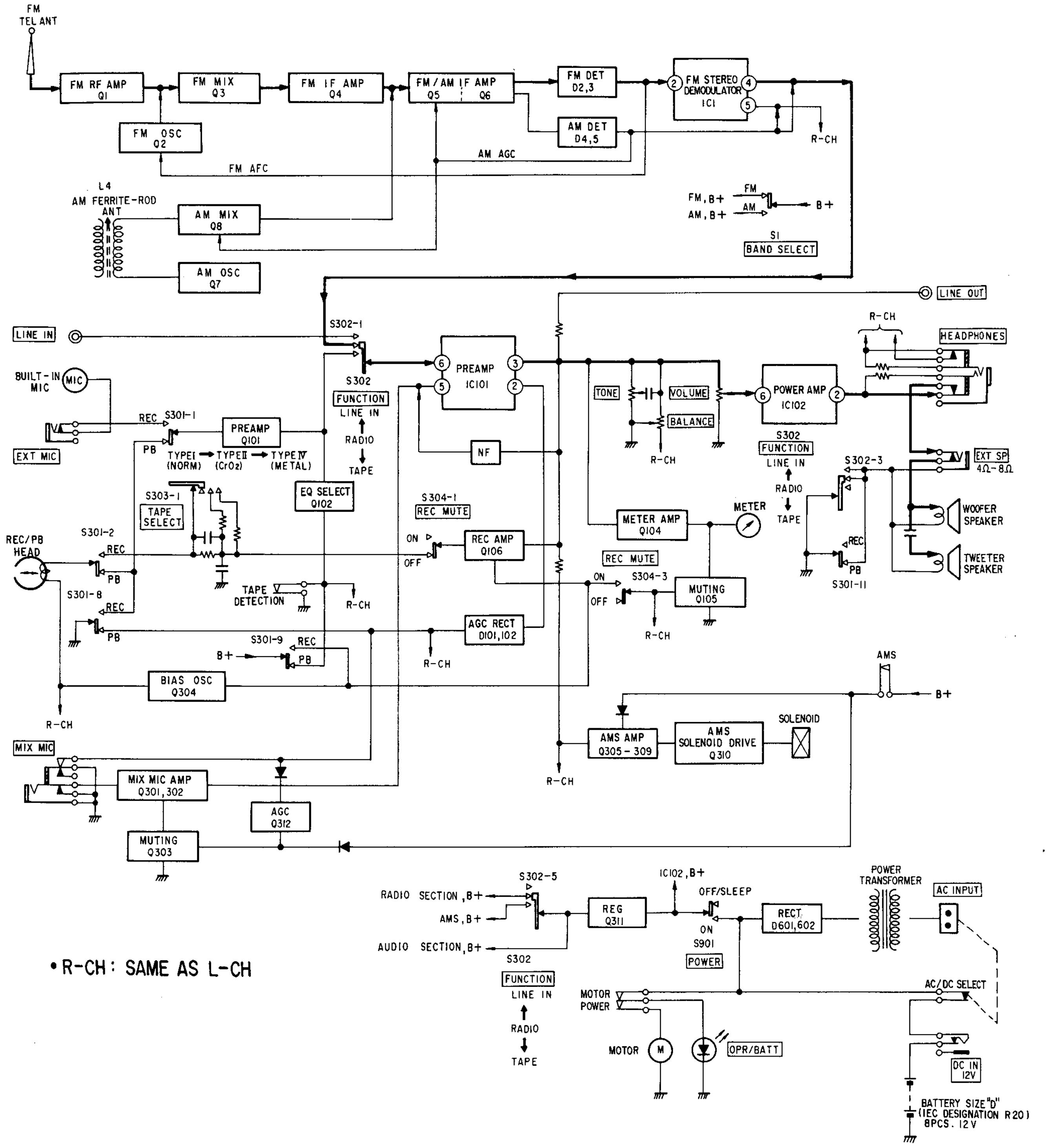
Color	1st or 2nd Digit	Multiplier	Tolerance	Temperature charac-teristic
brown	1	10^1	——	Y
red	2	10^2	——	D
orange	3	10^3	——	——
yellow	4	10^4	——	RH
green	5	——	——	——
blue	6	——	——	——
violet	7	——	——	UJ
gray	8	——	±30%	X
white	9	——	——	SL
black	0	10^0	±20%	CH
gold	——	10^{-1}	± 5%	V
silver	——	10^{-2}	±10%	B


multiplier
1st digit
temperature characteristic
tolerance
2nd digit

Example:


yellow
violet
brown
gold
white
4
7
10¹ ±5%
SL ➡ 470pF ±5% SL

SECTION 1
BLOCK DIAGRAM


FM TEL ANT
FM RF AMP Q1
FM MIX Q3
FM IF AMP Q4
FM / AM IF AMP Q5 Q6
FM DET D2,3
AM DET D4,5
FM STEREO DEMODULATOR IC1
R-CH
FM OSC Q2
FM AFC
AM AGC
L4 AM FERRITE-ROD ANT
AM MIX Q8
AM OSC Q7
FM, B+
AM, B+
FM
AM
B+
S1 BAND SELECT
LINE OUT
LINE IN
S302-1
BUILT-IN MIC
MIC
EXT MIC
S302 FUNCTION LINE IN RADIO TAPE
PREAMP IC101
REC S301-1
PB
PREAMP Q101
TYPEI (NORM) → TYPEII (CrO2) → TYPEIV (METAL)
EQ SELECT Q102
S303-1 TAPE SELECT
NF
TONE
VOLUME
BALANCE
R-CH
S302 FUNCTION LINE IN RADIO TAPE
POWER AMP IC102
R-CH
HEADPHONES
S302-3
EXT SP 4Ω-8Ω
WOOFER SPEAKER
TWEETER SPEAKER
REC
PB
S301-11
REC/PB HEAD
S301-2
REC
PB
S301-8
S304-1 REC MUTE
ON
OFF
REC AMP Q106
METER AMP Q104
METER
REC MUTE
S304-3
ON
OFF
MUTING Q105
R-CH
TAPE DETECTION
R-CH
AGC RECT D101,102
R-CH
S301-9
REC
PB
B+
BIAS OSC Q304
R-CH
AMS
B+
AMS AMP Q305 - 309
AMS SOLENOID DRIVE Q310
SOLENOID
R-CH
MIX MIC
MIX MIC AMP Q301,302
AGC Q312
MUTING Q303
RADIO SECTION, B+
AMS, B+
AUDIO SECTION, B+
S302-5
S302 FUNCTION LINE IN RADIO TAPE
REG Q311
IC102, B+
OFF/SLEEP
ON
S901 POWER
RECT D601,602
POWER TRANSFORMER
AC INPUT
AC/DC SELECT
MOTOR POWER
MOTOR
M
OPR/BATT
DC IN 12V
BATTERY SIZE "D" (IEC DESIGNATION R20) 8PCS. 12V

• R-CH : SAME AS L-CH

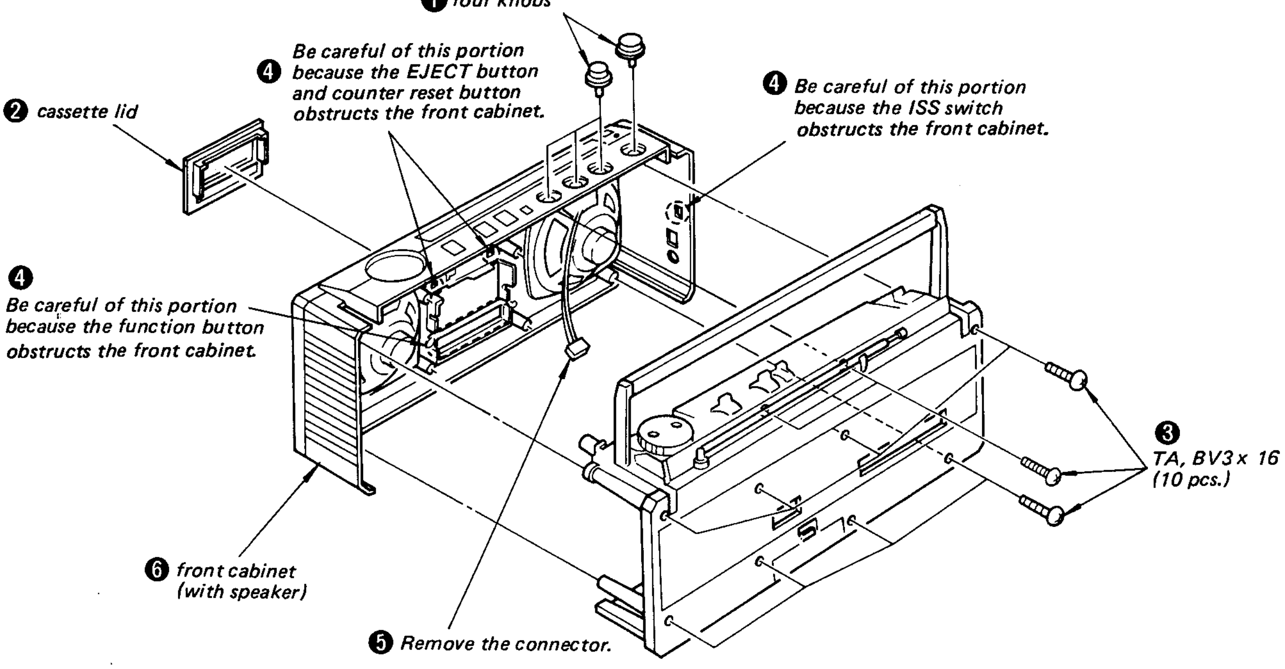
SECTION 2

DISASSEMBLY

2-1. REMOVAL

Note: Follow the disassembly procedure in the numerical order given.

FRONT CABINET



❶ four knobs

❷ cassette lid

❸ TA, BV3 x 16 (10 pcs.)

❹ Be careful of this portion because the EJECT button and counter reset button obstructs the front cabinet.

❹ Be careful of this portion because the ISS switch obstructs the front cabinet.

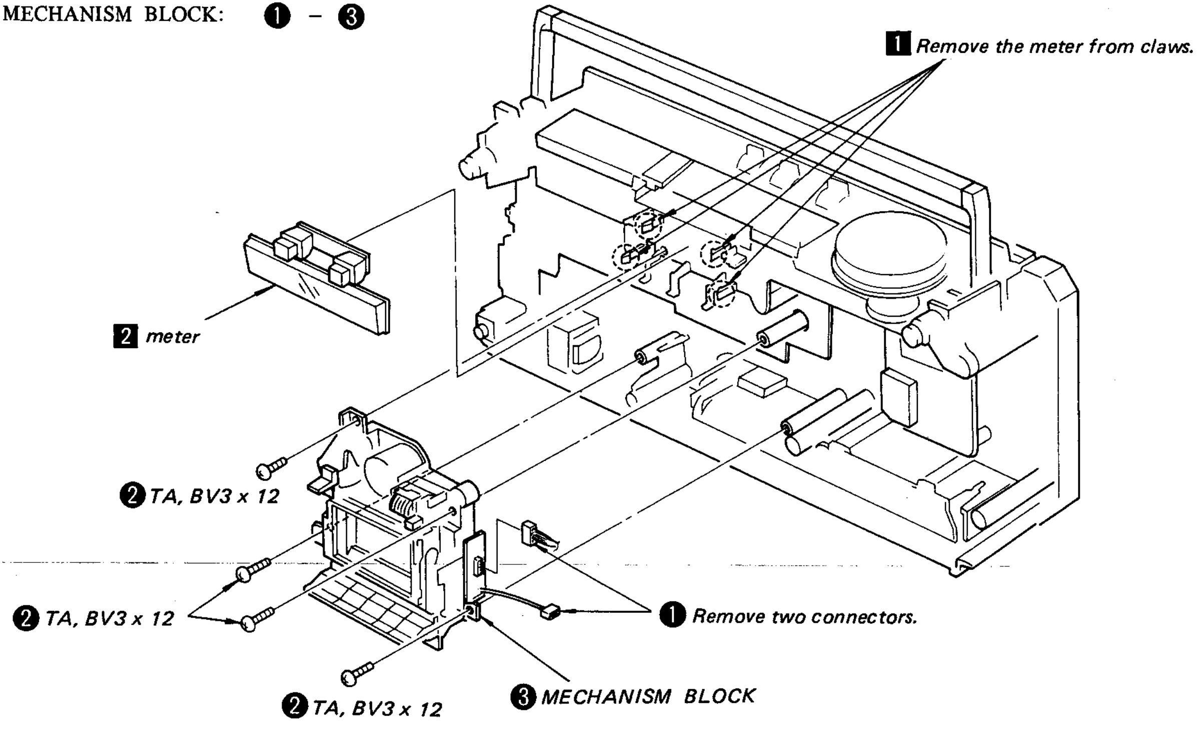
❹ Be careful of this portion because the function button obstructs the front cabinet.

❺ Remove the connector.

❻ front cabinet (with speaker)

METER AND MECHANISM BLOCK

METER : 1, 2
MECHANISM BLOCK: ❶ - ❸



1 Remove the meter from claws.

2 meter

❶ Remove two connectors.

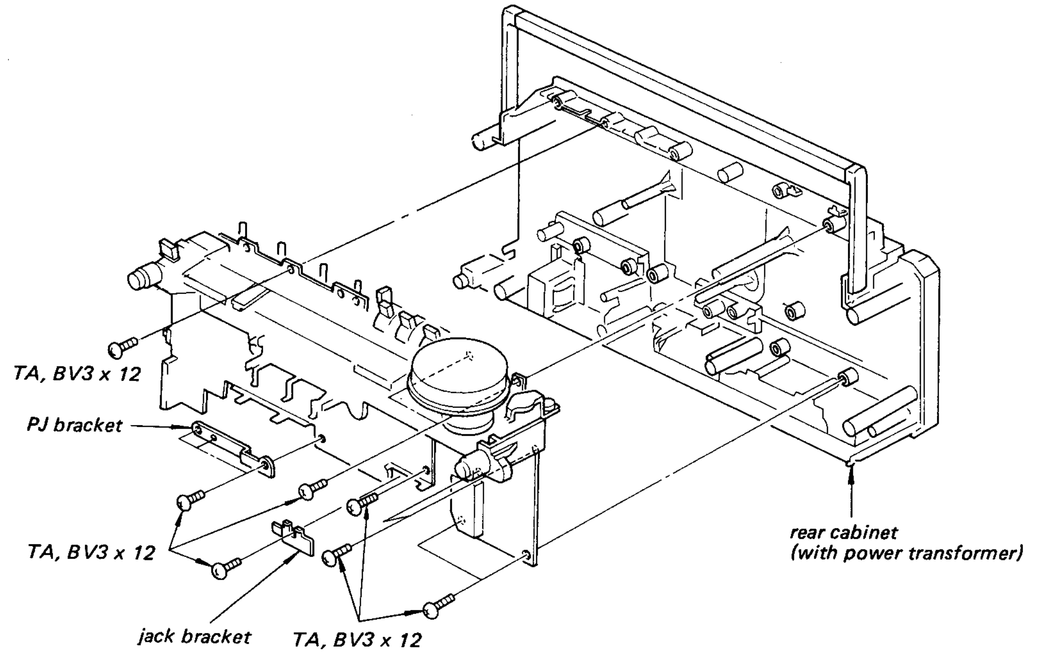
❷ TA, BV3 x 12

❷ TA, BV3 x 12

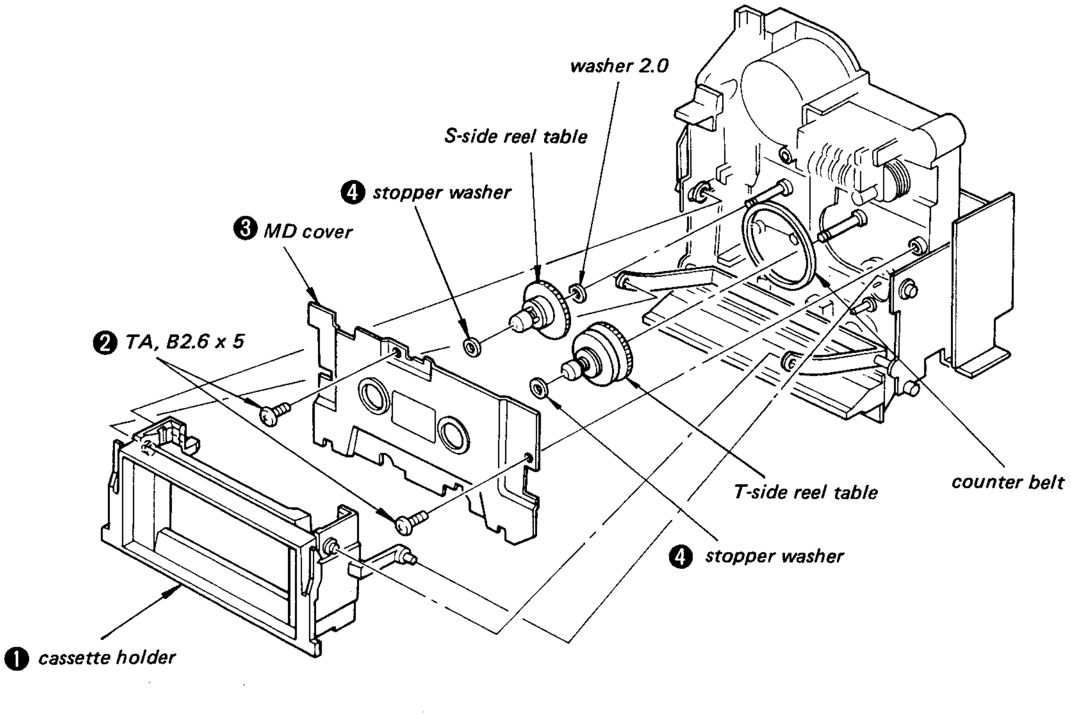
❷ TA, BV3 x 12

❸ MECHANISM BLOCK

REAR CABINET

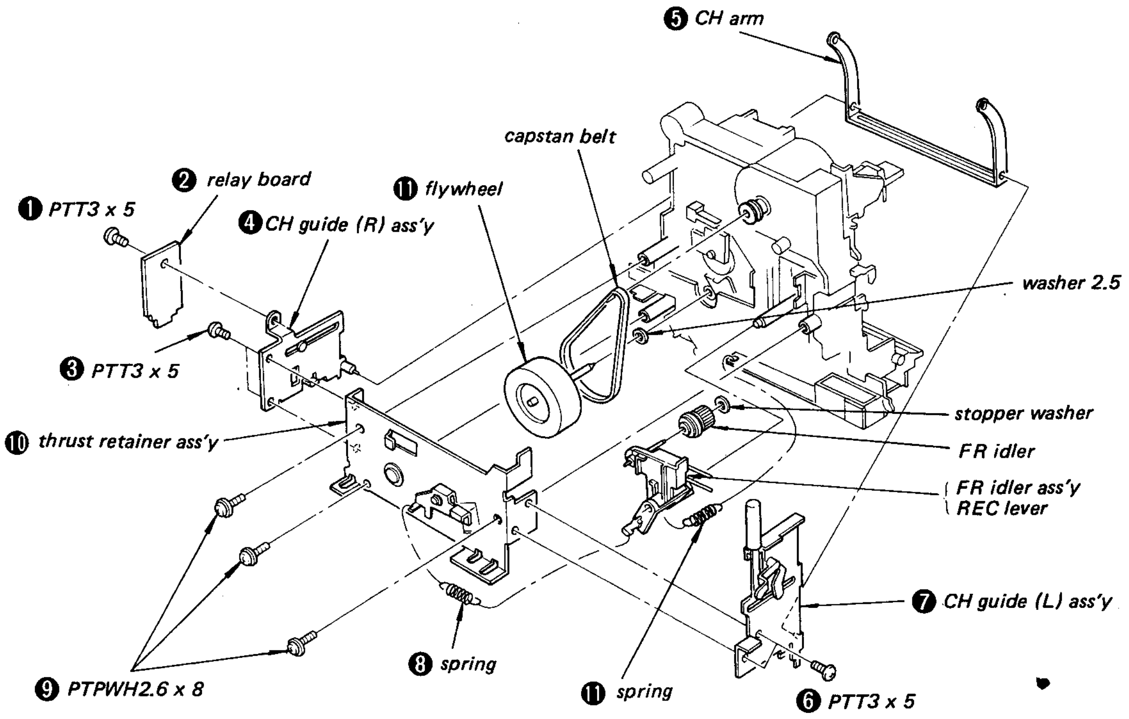

TA, BV3 x 12
PJ bracket
TA, BV3 x 12
jack bracket
TA, BV3 x 12
rear cabinet
(with power transformer)

REEL TABLE AND COUNTER BELT


washer 2.0
S-side reel table
❹ stopper washer
❸ MD cover
❷ TA, B2.6 x 5
T-side reel table
counter belt
❹ stopper washer
❶ cassette holder

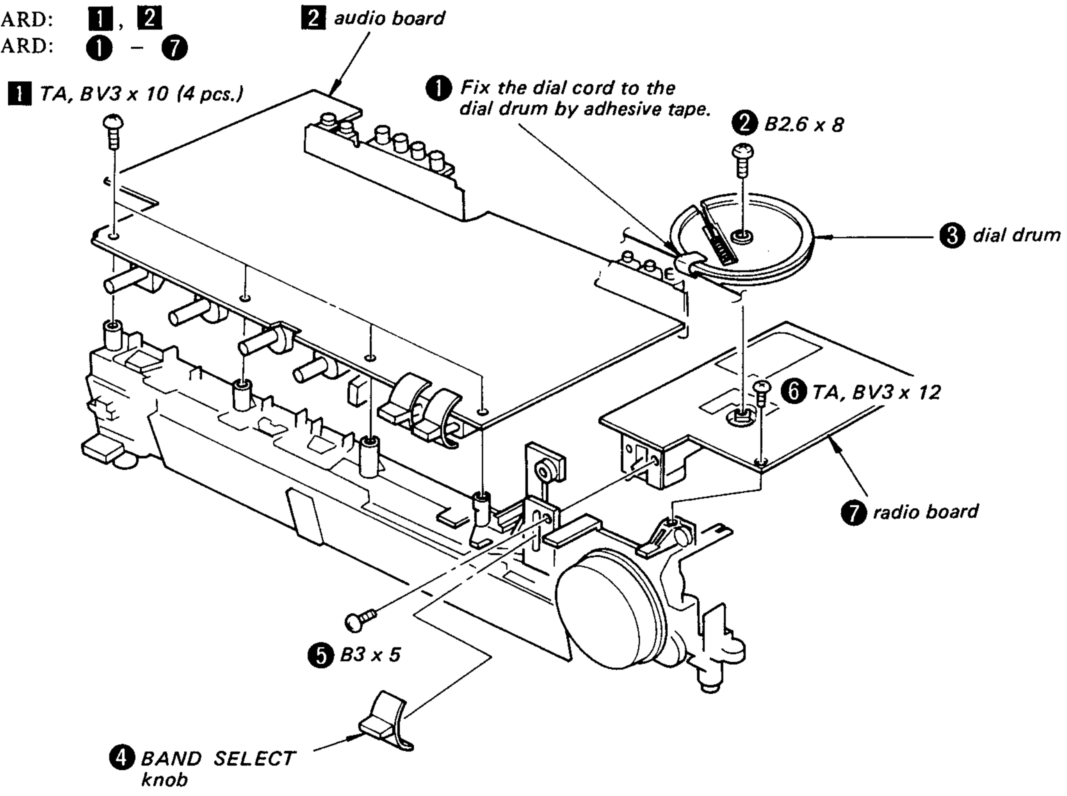
DIAL CORD STRINGING
See page 8.

FLYWHEEL, CAPSTAN BELT AND FR IDLER

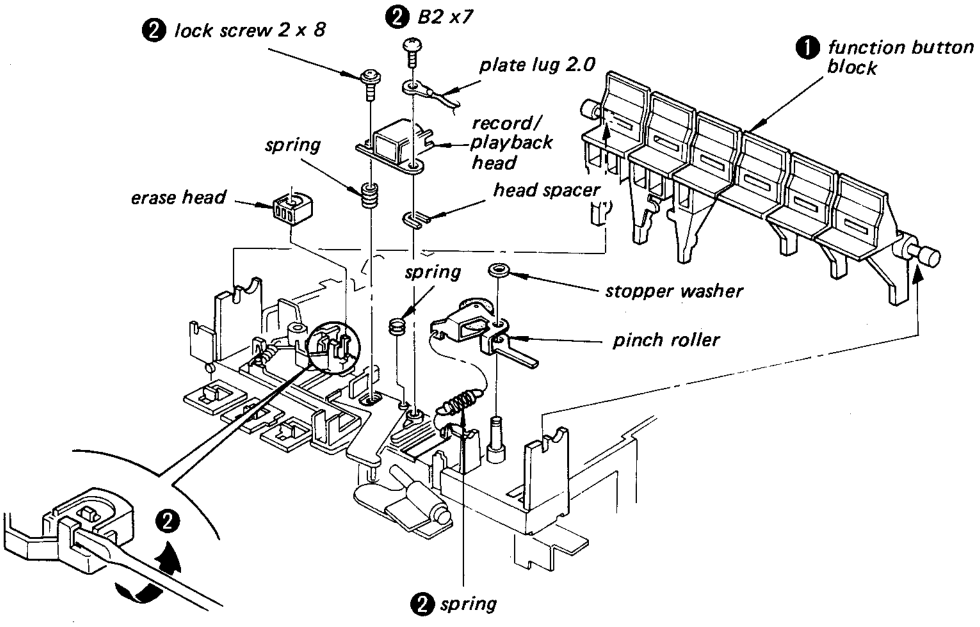

❺ CH arm
capstan belt
❷ relay board
⓫ flywheel
❶ PTT3 x 5
❹ CH guide (R) ass'y
washer 2.5
❸ PTT3 x 5
stopper washer
❿ thrust retainer ass'y
FR idler
FR idler ass'y
REC lever
❼ CH guide (L) ass'y
❽ spring
❾ PTPWH2.6 x 8
⓫ spring
❻ PTT3 x 5

RADIO BOARD AND AUDIO BOARD

AUDIO BOARD: **1**, **2**
RADIO BOARD: ❶ – ❼

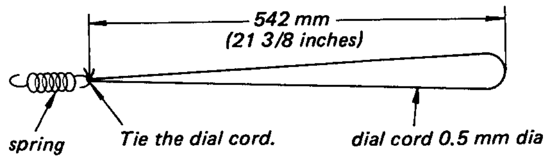

2 audio board
1 TA, BV3 x 10 (4 pcs.)
❶ Fix the dial cord to the dial drum by adhesive tape.
❷ B2.6 x 8
❸ dial drum
❻ TA, BV3 x 12
❼ radio board
❺ B3 x 5
❹ BAND SELECT knob

RECORD/PLAYBACK HEAD, ERASE HEAD AND PINCH ROLLER


❷ lock screw 2 x 8
❷ B2 x7
plate lug 2.0
❶ function button block
record/ playback head
spring
erase head
head spacer
spring
stopper washer
pinch roller
❷
❷ spring

2-2. DIAL CORD STRINGING

1) Preparation

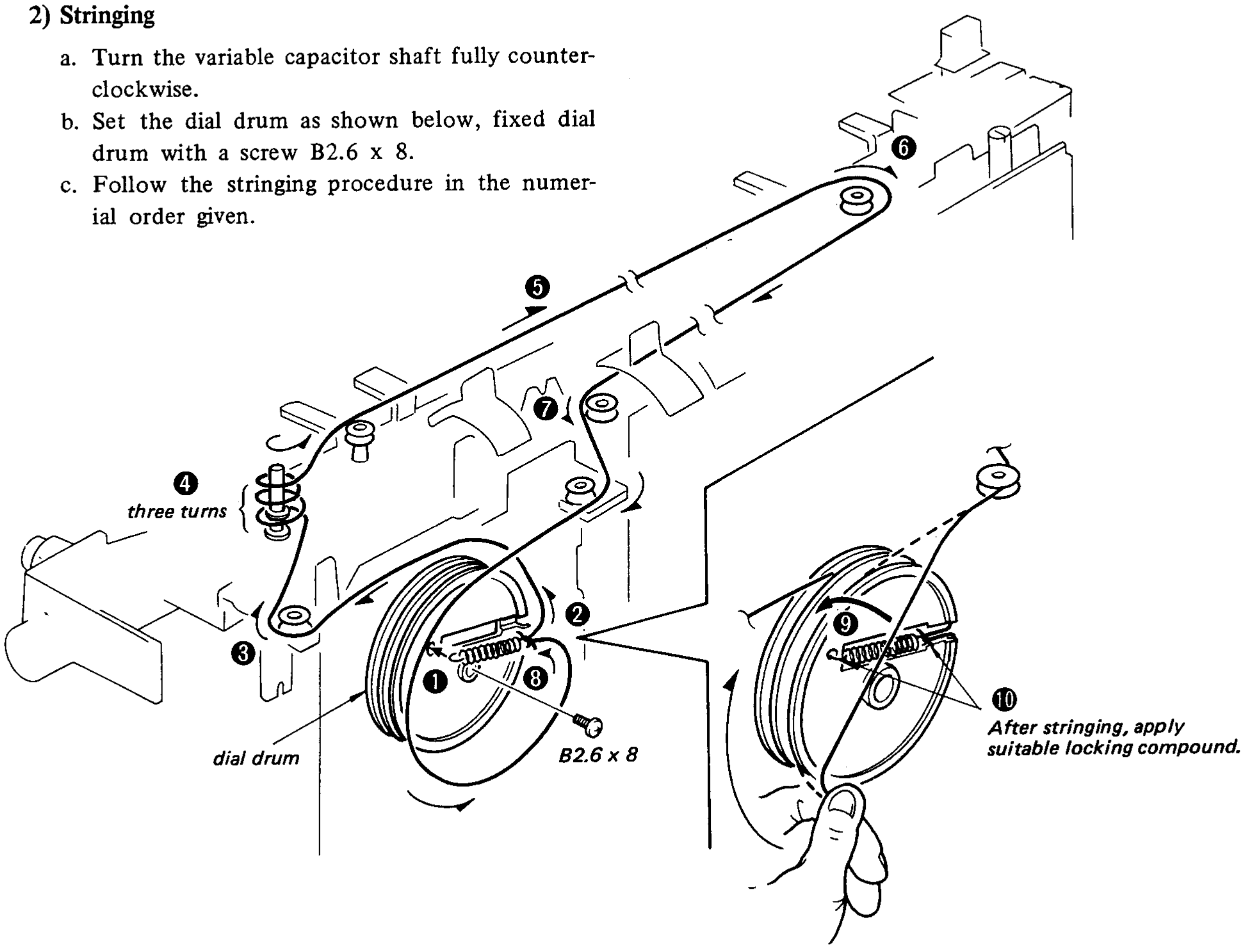

542 mm
(21 3/8 inches)
spring
Tie the dial cord.
dial cord 0.5 mm dia

2) Stringing

a. Turn the variable capacitor shaft fully counterclockwise.

b. Set the dial drum as shown below, fixed dial drum with a screw B2.6 x 8.

c. Follow the stringing procedure in the numerial order given.

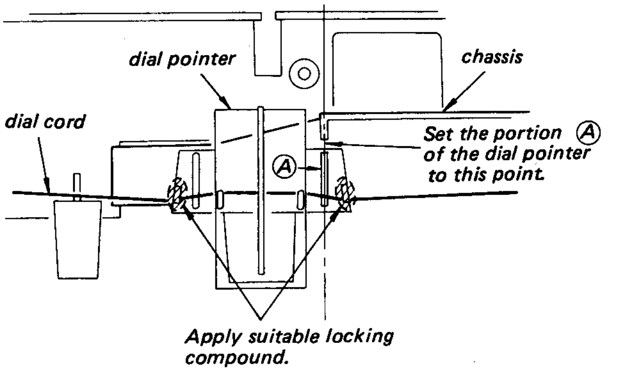

❶
❷
❸
❹
three turns
❺
❻
❼
❽
❾
❿
dial drum
B2.6 x 8
After stringing, apply suitable locking compound.

3) Dial Pointer Setting

a. After the stringing, turn the TUNING knob fully counterclockwise.

b. Set the dial pointer as shown on the right.

c. Apply locking compound to the dial pointer and dial cord.


dial pointer
chassis
dial cord
Ⓐ
Set the portion Ⓐ of the dial pointer to this point.
Apply suitable locking compound.

SECTION 3
ADJUSTMENTS

3-1. TAPE RECORDER SECTION MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
   - – Mechanism Block Front Side –

record/playback head	pinch roller
erase head	FWD idler
capstan	T-side reel table

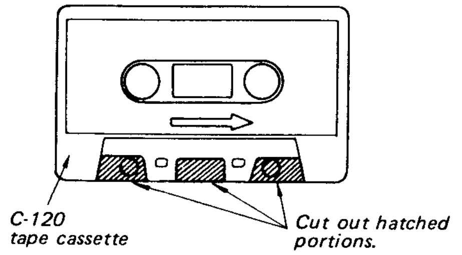
   - – Mechanism Block Rear Side –

capstan belt	FR idler

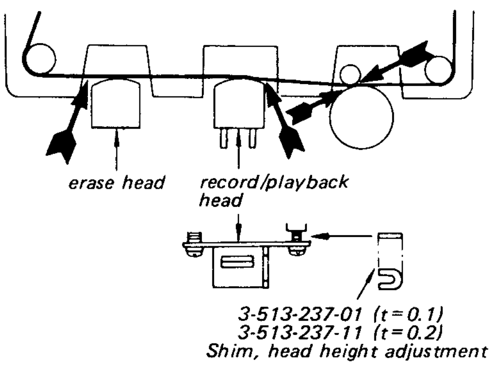
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Head Height Adjustment

1. Prepare an adjustment cassette as shown below.


C-120
tape cassette
Cut out hatched
portions.

2. In record mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at arrowed portions.

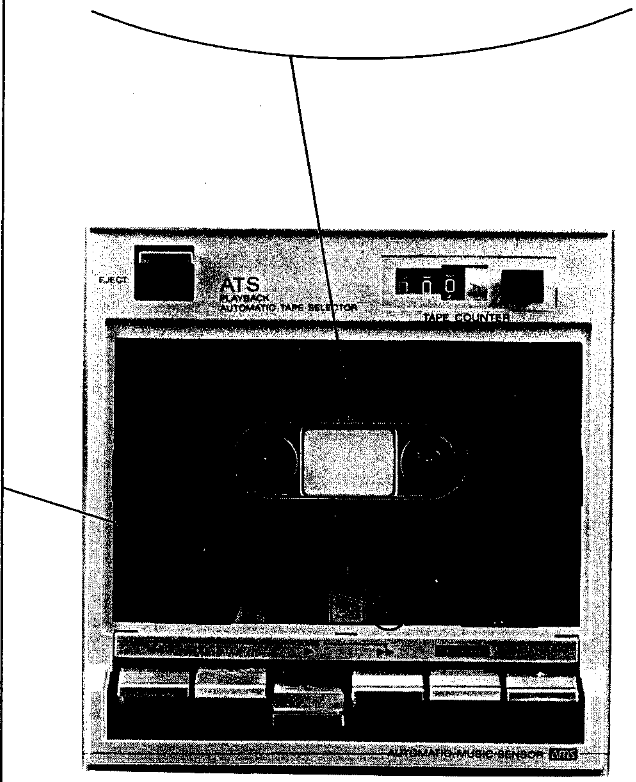

erase head
record/playback
head
3-513-237-01 (t=0.1)
3-513-237-11 (t=0.2)
Shim, head height adjustment

Torque Measurement

Torque	Meter Reading	Torque Meter
Forward	26 – 48 g · cm (0.36 – 0.67 oz . inch)	CQ-102C
Fast Forward and Rewind	80 – 120 g · cm (1.11 – 1.67 oz inch)	CQ-201B
Back Tension	1.5 – 5 g · cm	CQ-102C

Tape Tension Measurement

Meter	Meter Reading
CQ-403A	more than 160 g (5.6 oz)


EJECT
ATS
PLAYBACK
AUTOMATIC TAPE SELECTOR
TAPE COUNTER
AUTOMATIC MUSIC SENSOR AMS

3-2. TAPE RECORDER SECTION ELECTRICAL ADJUSTMENTS

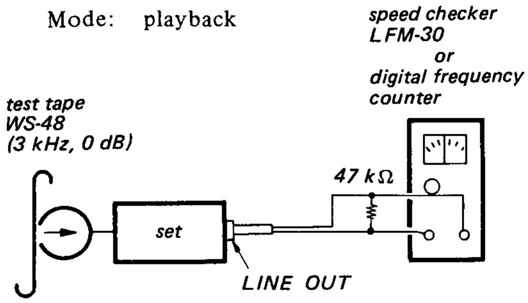
Tape Speed Adjustment

Setting:

VOLUME control: mechanical mid

Procedure:

Mode: playback

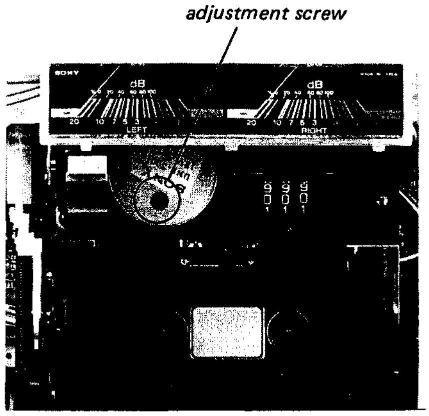

speed checker
LFM-30
or
digital frequency
counter
test tape
WS-48
(3 kHz, 0 dB)
47 kΩ
set
LINE OUT

Specification:

Speed checker	Digital frequency counter
–2.5 to +3 %	2925 – 3090 Hz

Frequency difference between the beginning and the end of the tape should be within 1 % (30 Hz).

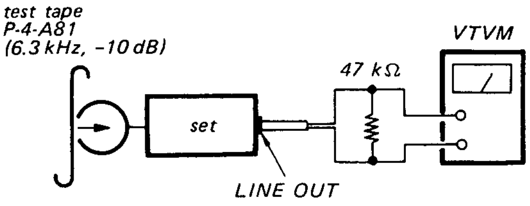
Adjustment Location:


adjustment screw

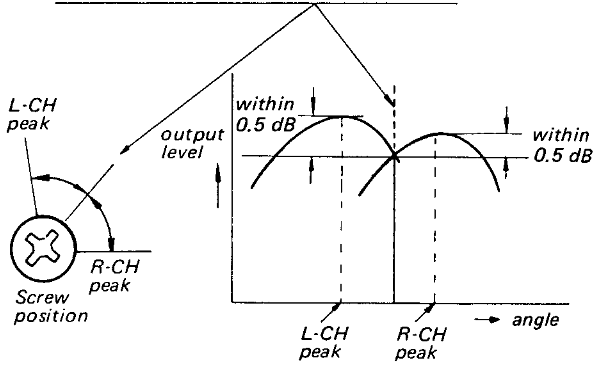
Record/playback Head Azimuth Adjustment

Procedure:

1. Mode: playback

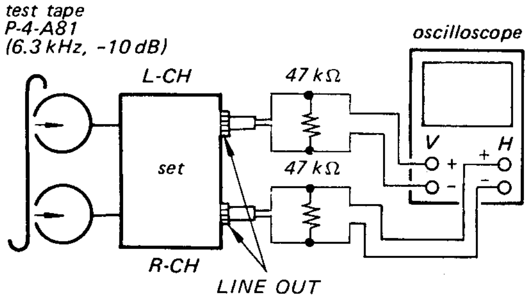

test tape
P-4-A81
(6.3 kHz, -10 dB)
VTVM
47 kΩ
set
LINE OUT

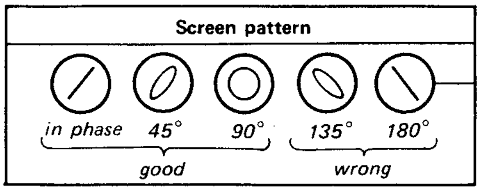
2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw where both of output levels match together within 0.5 dB.



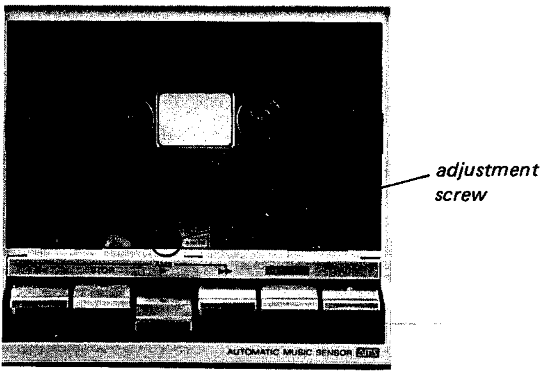
Note: Finish the screw adjustment with a turn in the clockwise direction. After the adjustment, lock the adjustment screw with suitable locking compound.

3. Phase Check
Mode: playback


test tape
P-4-A81
(6.3 kHz, -10 dB)
oscilloscope
L-CH
47 kΩ
set
47 kΩ
V
H
R-CH
LINE OUT


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

Adjustment Location:


adjustment
screw
AUTOMATIC MUSIC SENSOR

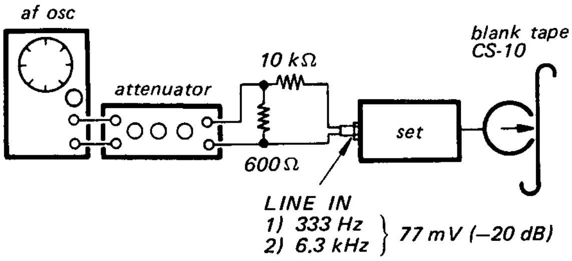
Record Bias Adjustment

Setting:

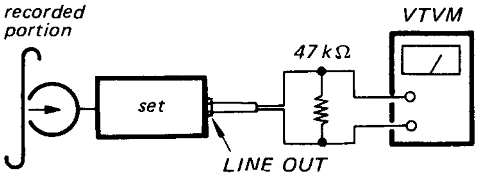
TONE control:	HIGH
FUNCTION switch:	TAPE
TAPE SELECT switch:	TYPE I (NORM)
ISS switch:	1

Procedure:

1. Mode: record

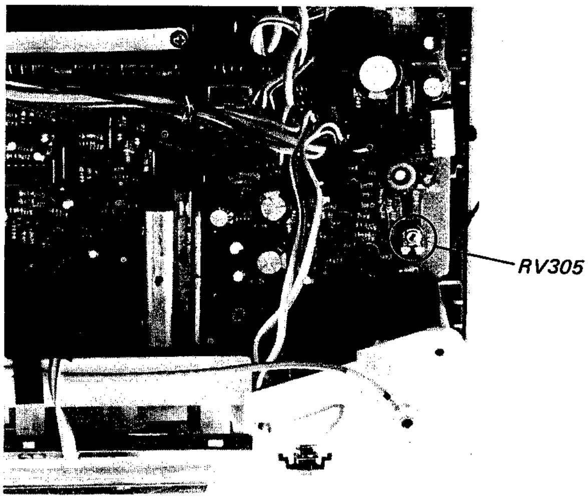

af osc
attenuator
10 kΩ
600Ω
set
blank tape
CS-10
LINE IN
1) 333 Hz
2) 6.3 kHz
77 mV (−20 dB)

2. Mode: playback


recorded
portion
set
47 kΩ
VTVM
LINE OUT

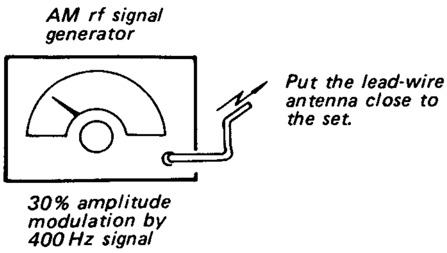
Adjust RV305 so that 6.3 kHz signal level is 2 ± 2 dB relative to 333 Hz signal level. Repeat the steps above.

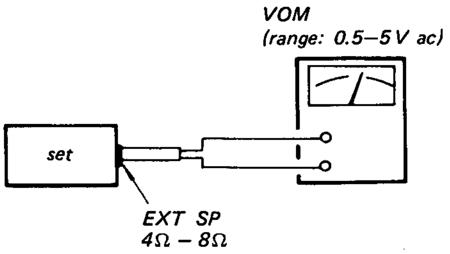
Adjustment Location:



3-3. RADIO SECTION ELECTRICAL ADJUSTMENTS

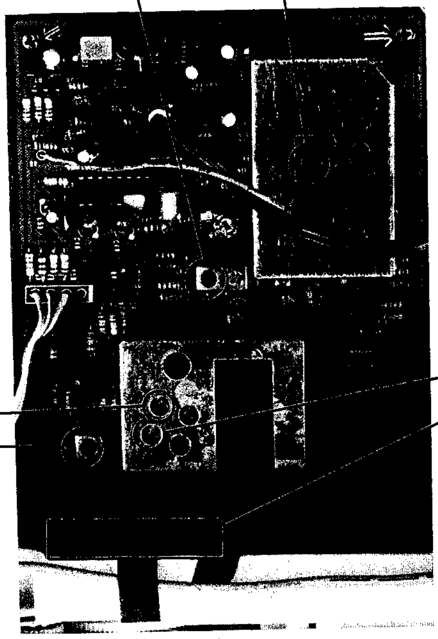
AM


AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal


VOM
(range: 0.5–5 V ac)
set
EXT SP
4Ω – 8Ω

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

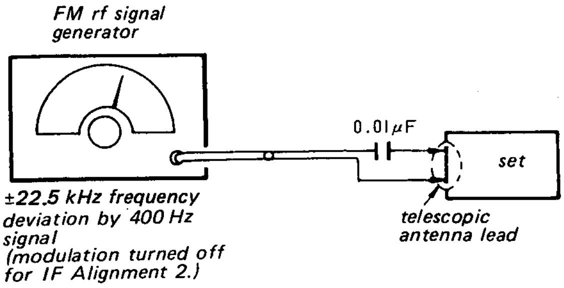
AM IF ALIGNMENT	
Adjust for a maximum reading on VOM.	
455 kHz	
T3	T6

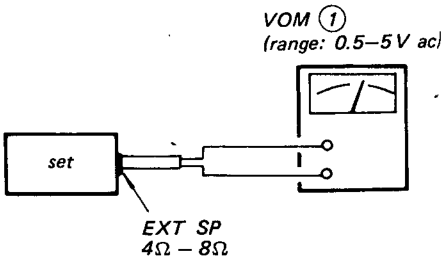


AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM.	
1,680 kHz	CT4
520 kHz	T2

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM.	
CT3	1,400 kHz
L4	620 kHz

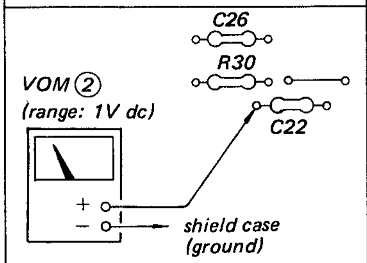
FM


FM rf signal generator
0.01μF
set
±22.5 kHz frequency deviation by 400 Hz signal (modulation turned off for IF Alignment 2.)
telescopic antenna lead

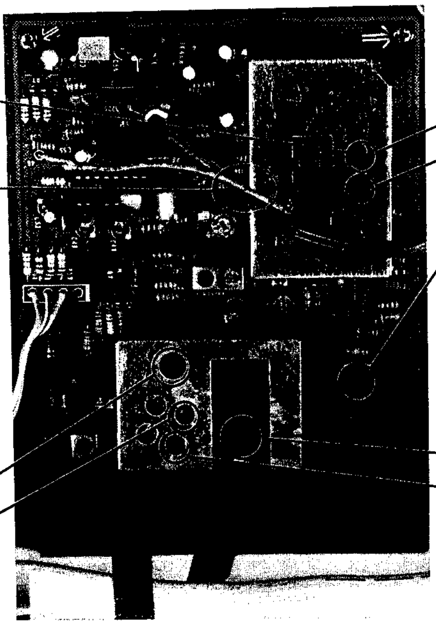

VOM ①
(range: 0.5–5 V ac)
set
EXT SP
4Ω – 8Ω

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM IF ALIGNMENT 2 (10.7 MHz with no modulation)
Adjust for 0V dc reading on VOM ②.
T5


C26
R30
VOM②
(range: 1V dc)
C22
+
−
shield case
(ground)

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM①.	
87.1 MHz	L3
108.5 MHz	CT2



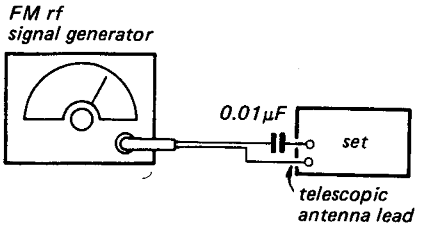
FM IF ALIGNMENT 1 (10.7 MHz with modulation)
Adjust for a maximum reading on VOM ①.
T5
T4
T1

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM①.	
L2	87.1 MHz
CT1	108.5 MHz

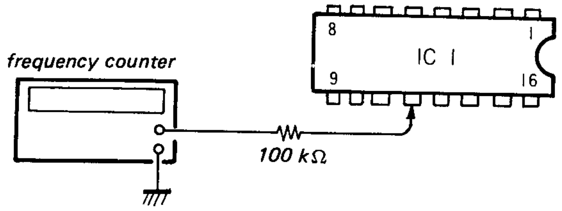
19 kHz Adjustment

A) Regular Method

Procedure:


FM rf
signal generator
0.01μF
set
telescopic
antenna lead

Carrier frequency: *98 MHz*
Modulation: *1 kHz, 75 kHz deviation (100 %)*
Output level: *1 mV (60 dB)*

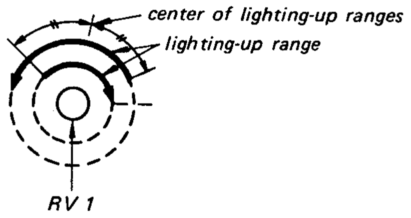

frequency counter
8
1
IC 1
9
16
100 kΩ

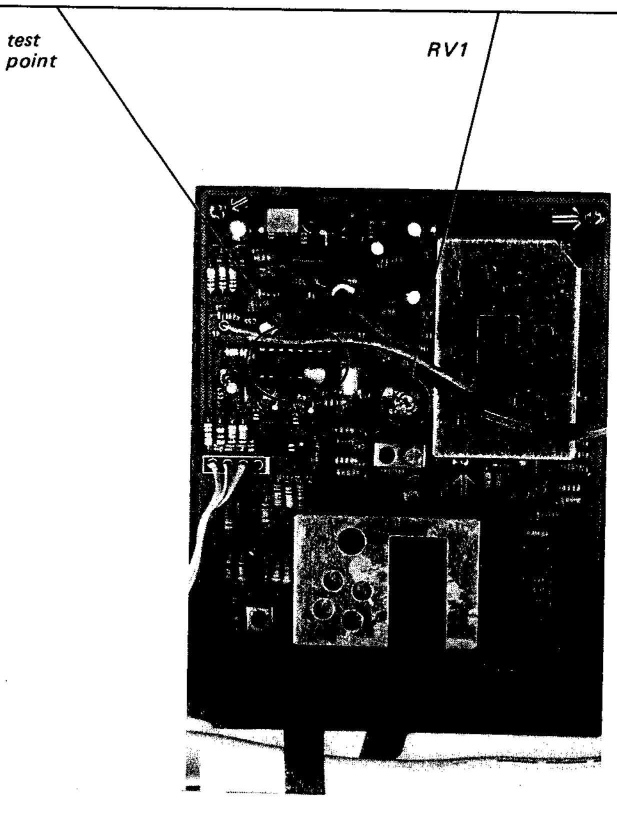
1. Tune the set to 98 MHz.
2. Adjust RV1 for 19 kHz $^{+50\ \text{Hz}}_{-100\ \text{Hz}}$ on the frequency counter.

B) Simple Method

Procedure:

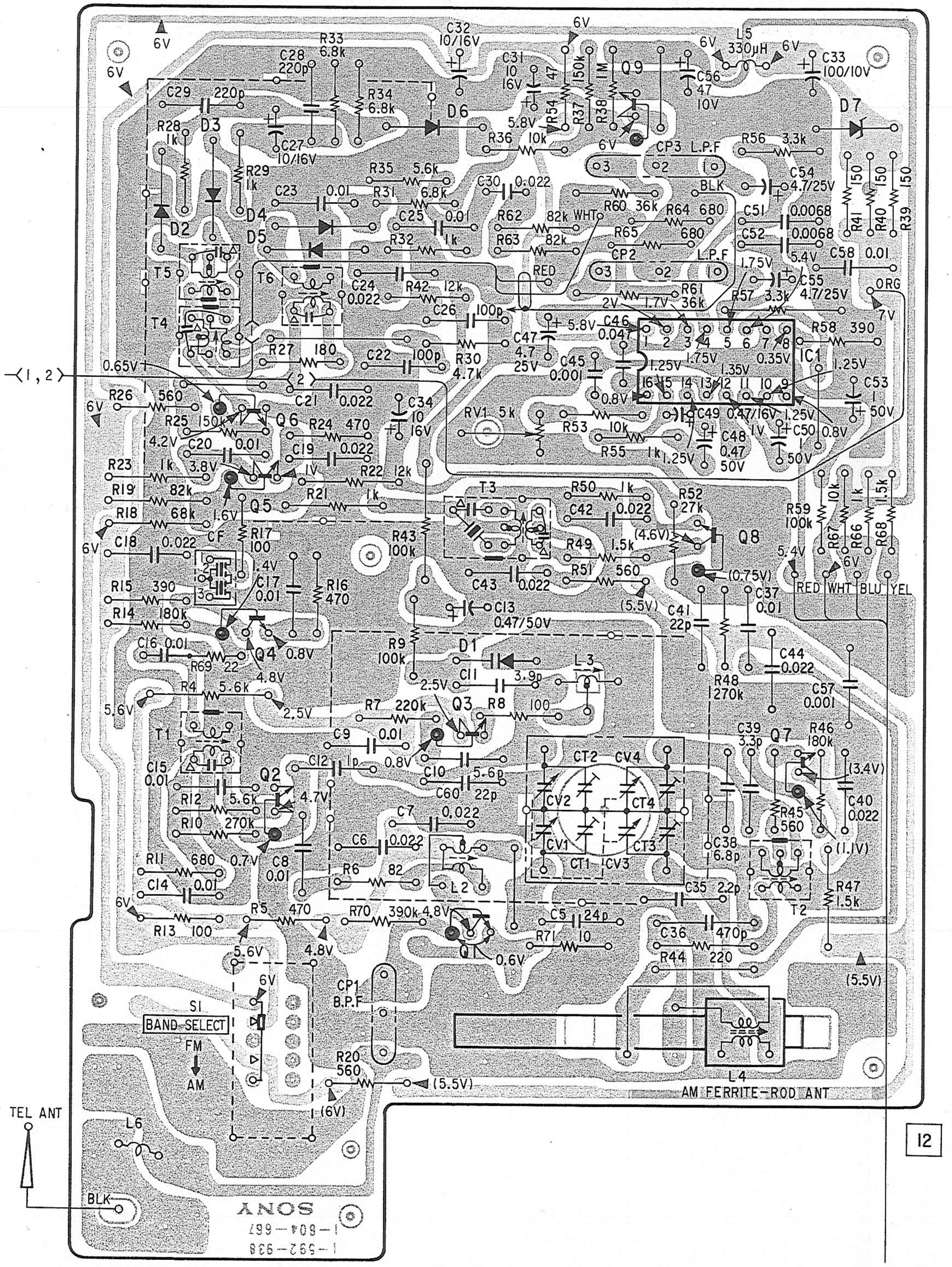
1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV 1 clockwise or counterclockwise and memorize the lighting-up range of the stereo lamp.
3. Secure RV 1 at the center of the lighting-up range of both turns as shown below.


center of lighting-up ranges
lighting-up range
RV 1

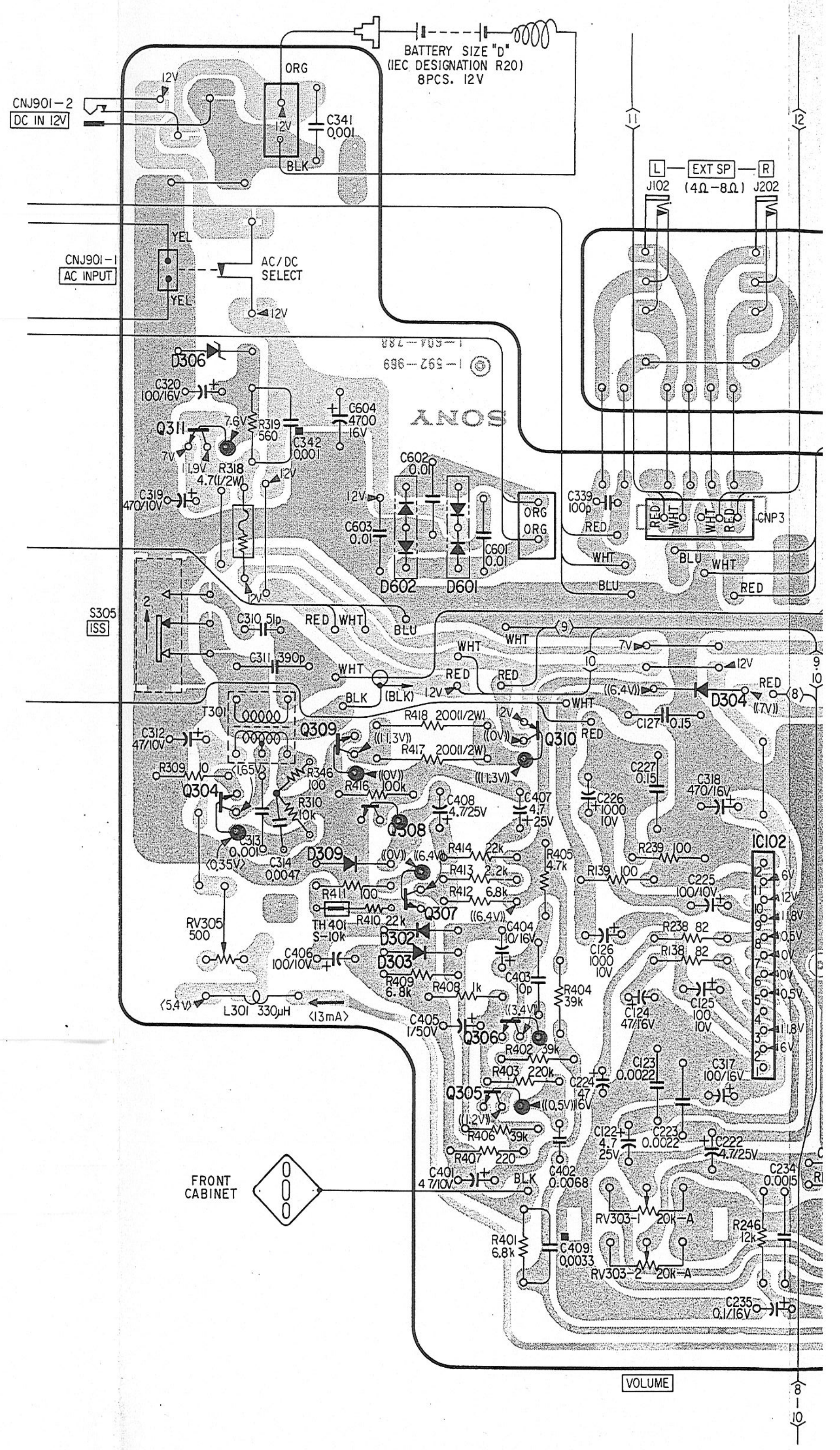

test
point
RV1

4-1. MOUNTING DIAGRAM
— Conductor Side —

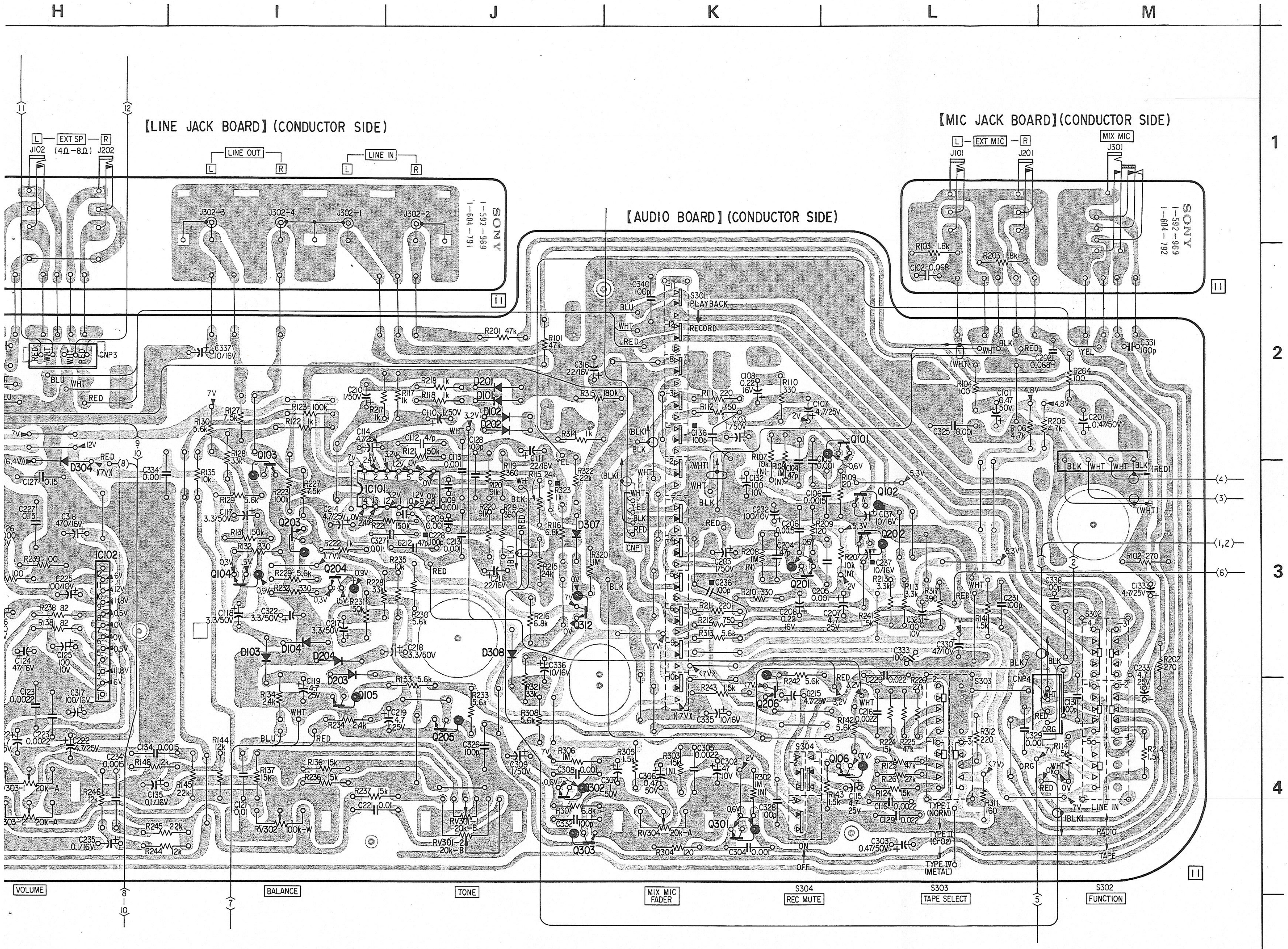
【RADIO BOARD】(CONDUCTOR SIDE)


RV1 5k
T3
T4
T5
T6
CT2
CV4
CV2
CT4
CV1
CT1
CV3
CT3
IC1
CP1 B.P.F
CP2
CP3 L.P.F
L4
AM FERRITE-ROD ANT
S1
BAND SELECT
FM
AM
FM TEL ANT
L6
BLK
SONY
1-604-667
1-592-938
RED
WHT
BLU
YEL
-⟨1, 2⟩
12

Q, IC	D
9 IC1	6 7 2,3 4 5
6 5 8 4 3	1
7 2 1	

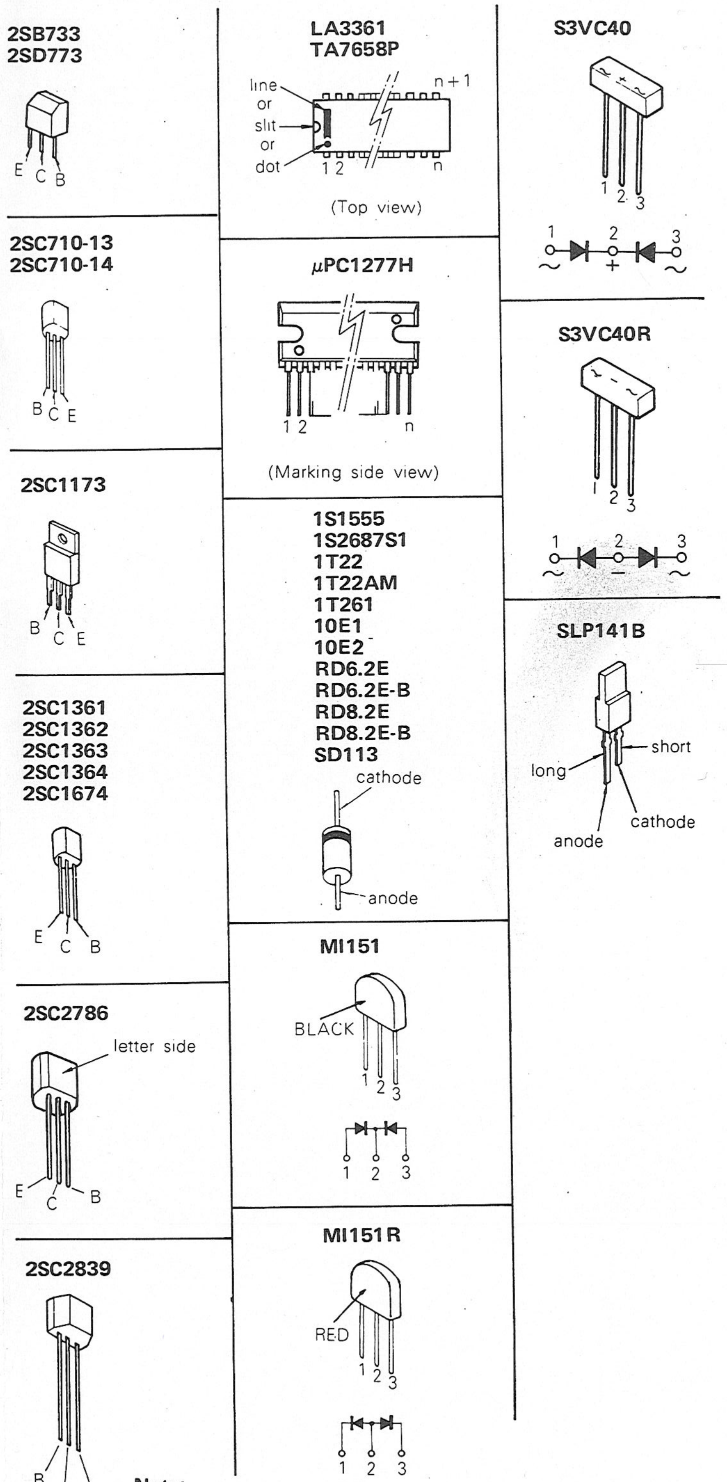

BATTERY SIZE "D"
(IEC DESIGNATION R20)
8PCS. 12V
CNJ901-2
DC IN 12V
CNJ901-1
AC INPUT
AC/DC SELECT
ORG
BLK
YEL
EXT SP
(4Ω-8Ω)
L
R
J102
J202
CNP3
S305
ISS
SONY
1-592-989
1-604-788
IC102
RV305 500
RV303-1 20k-A
RV303-2 20k-A
TH401 S-10k
L301 330μH
FRONT CABINET
VOLUME

Q IC	311 304	309	308, 307	310 305, 306	IC102
D	306	309	602, 601 302, 303		304
ADJ	RV305				RV303-1, RV303-2


H
I
J
K
L
M
1
2
3
4
5
[LINE JACK BOARD] (CONDUCTOR SIDE)
[MIC JACK BOARD] (CONDUCTOR SIDE)
[AUDIO BOARD] (CONDUCTOR SIDE)
EXT SP
(4Ω−8Ω)
J102
J202
LINE OUT
LINE IN
J302-3
J302-4
J302-1
J302-2
SONY 1-592-969 1-604-791
EXT MIC
MIX MIC
J101
J201
J301
SONY 1-592-969 1-604-792
S301
PLAYBACK
RECORD
IC101
IC102
CNP1
CNP3
CNP4
VOLUME
BALANCE
TONE
MIX MIC FADER
S304 REC MUTE
S303 TAPE SELECT
S302 FUNCTION
TYPE I (NORM)
TYPE II (CrO2)
TYPE IV (METAL)
LINE IN
RADIO
TAPE
ON
OFF

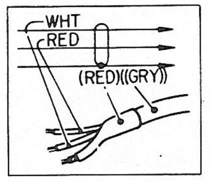
H	I	J	K	L	M	
IC102	104, 103, 203, 204, 105	IC101, 205, 312, 302, 303	301, 206, 201	101, 102, 202, 106		Q · IC
304	103, 104, 204, 203	201, 101, 102, 202, 308, 307				D
V303-1, RV303-2	RV302	RV301-1, RV301-2	RV304			ADJ

Semiconductor Lead Layouts


2SB733
2SD773
E C B
LA3361
TA7658P
line or slit or dot
n+1
1 2
n
(Top view)
S3VC40
1 2 3
2SC710-13
2SC710-14
B C E
μPC1277H
1 2
n
(Marking side view)
S3VC40R
1 2 3
2SC1173
B C E
1S1555
1S2687S1
1T22
1T22AM
1T261
10E1
10E2
RD6.2E
RD6.2E-B
RD8.2E
RD8.2E-B
SD113
cathode
anode
SLP141B
long
short
anode
cathode
2SC1361
2SC1362
2SC1363
2SC1364
2SC1674
E C B
MI151
BLACK
1 2 3
2SC2786
letter side
E C B
MI151R
RED
1 2 3
2SC2839
B C E

Note:

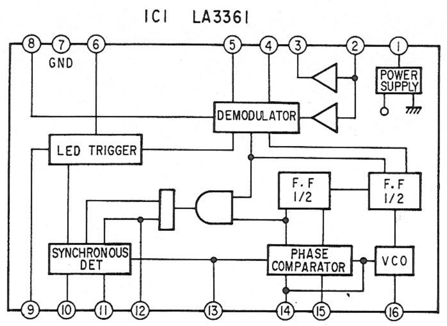
- Color code of sleeving over the end of the jacket.

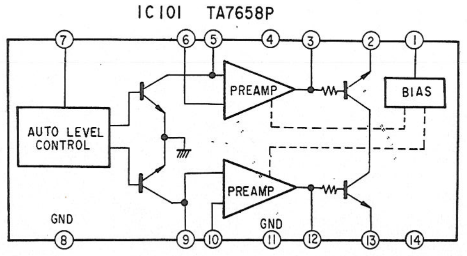

WHT
RED
(RED)(GRY)

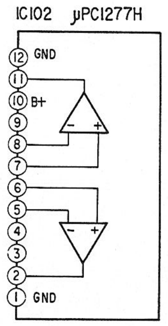
- ○— : parts extracted from the component side.
- ■ : part mounted on the conductor side.
- [ ]← : indicates side identified with part number.
- ▨ : B + pattern

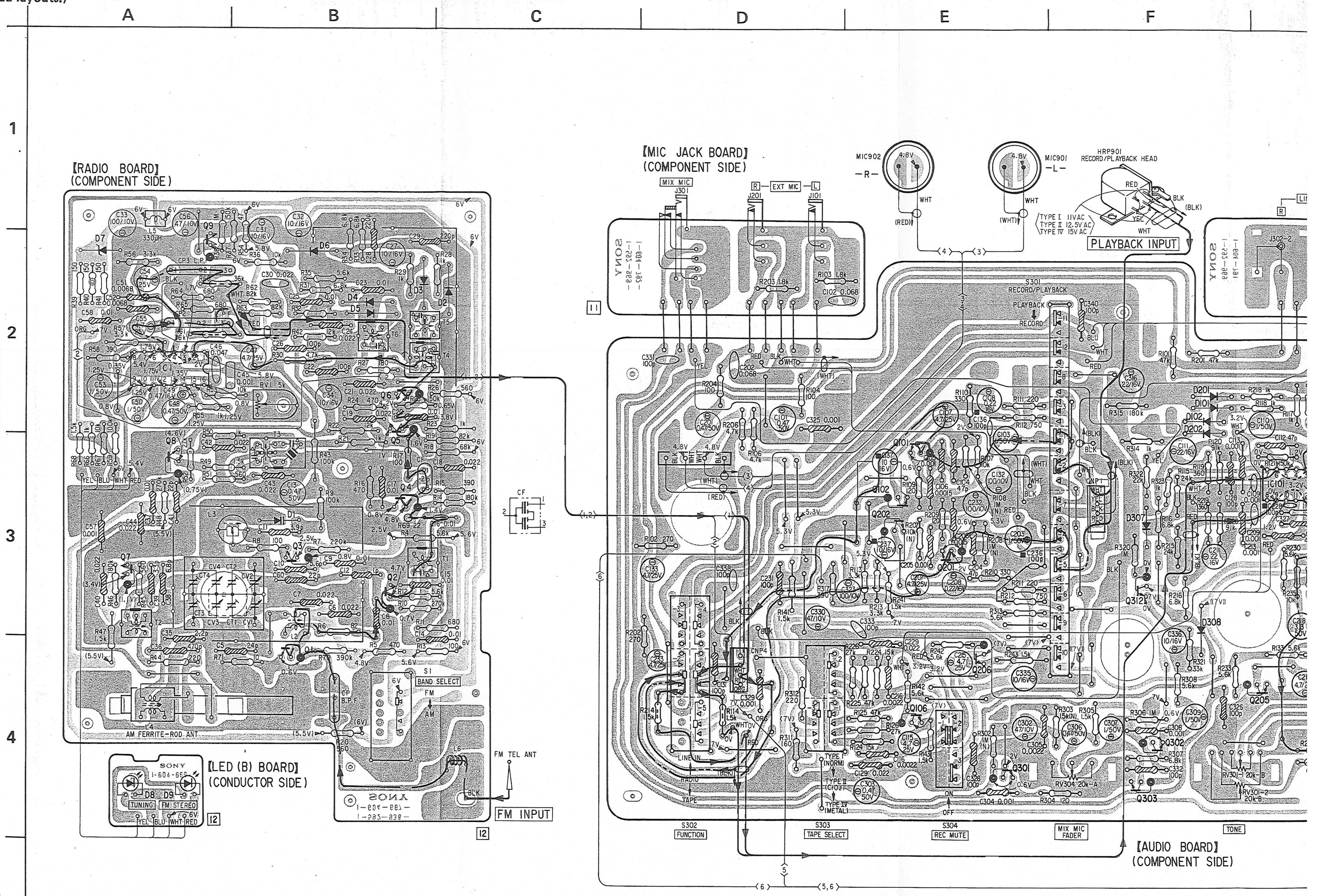
4-2. MOUNTING DIAGRAM

(Refer to page 18 for semiconductor lead layouts.)


IC1 LA3361
GND
DEMODULATOR
POWER SUPPLY
LED TRIGGER
F.F 1/2
F.F 1/2
SYNCHRONOUS DET
PHASE COMPARATOR
VCO


IC101 TA7658P
PREAMP
PREAMP
BIAS
AUTO LEVEL CONTROL
GND
GND

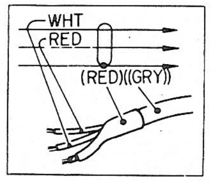

IC102 µPC1277H
GND
B+
GND


A
B
C
D
E
F
1
2
3
4
[RADIO BOARD] (COMPONENT SIDE)
[LED (B) BOARD] (CONDUCTOR SIDE)
TUNING
FM STEREO
AM FERRITE-ROD ANT
BAND SELECT
S1
FM TEL ANT
FM INPUT
CF
[MIC JACK BOARD] (COMPONENT SIDE)
MIX MIC
EXT MIC
MIC902
MIC901
HRP901 RECORD/PLAYBACK HEAD
TYPE I 11VAC
TYPE II 12.5VAC
TYPE IV 15VAC
PLAYBACK INPUT
S301 RECORD/PLAYBACK
S302 FUNCTION
S303 TAPE SELECT
S304 REC MUTE
MIX MIC FADER
TONE
[AUDIO BOARD] (COMPONENT SIDE)
SONY

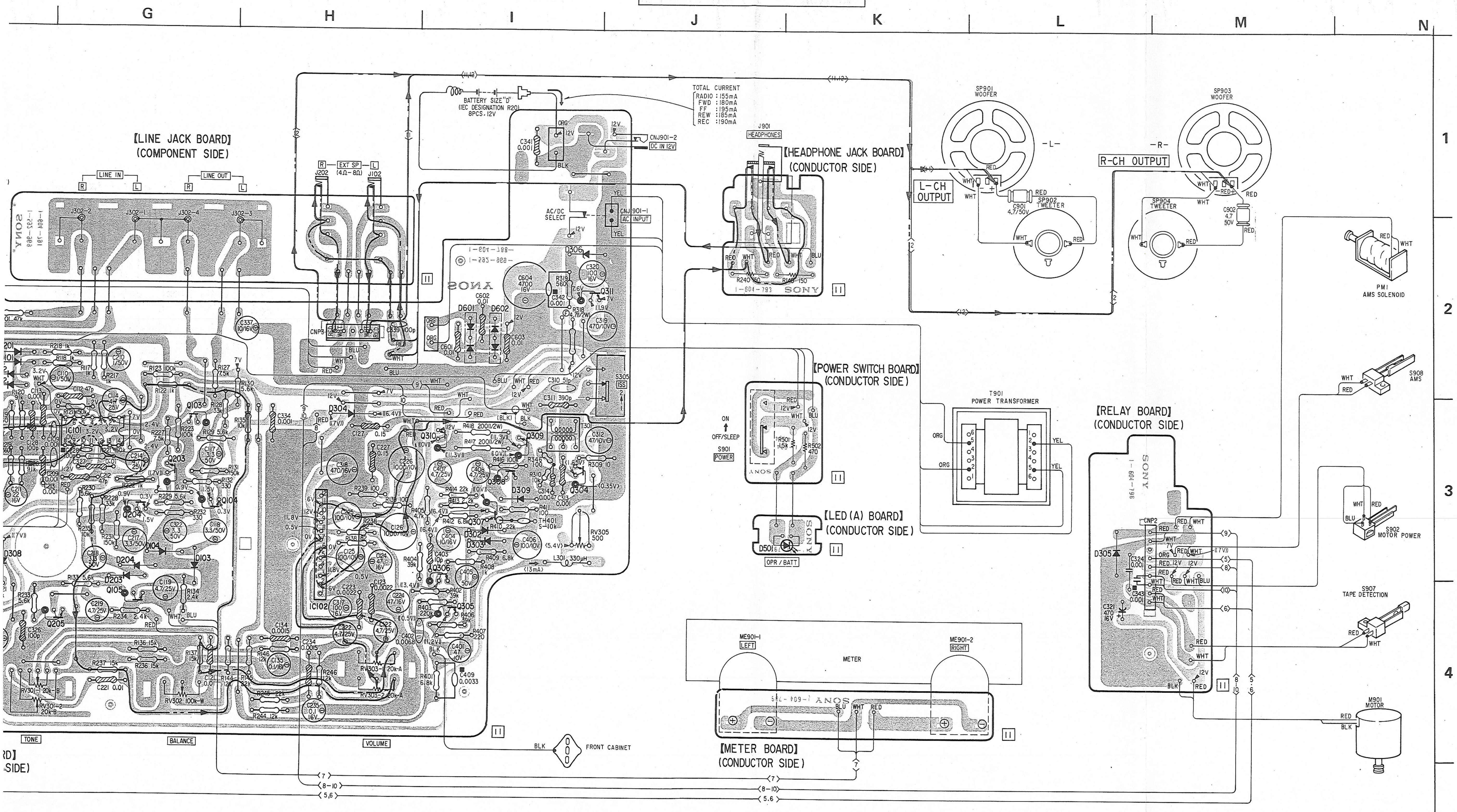
	A	B	C	D	E	F	
Q·IC	7 IC1 8 9	3 1 6 5 2 4			102 202 101 106 201 206 301	312 302 303	205 IC101
D	7 8 9	1 6 4 5 3	2			307 201 101 102 202 308	

Note:

- Color code of sleeving over the end of the jacket.

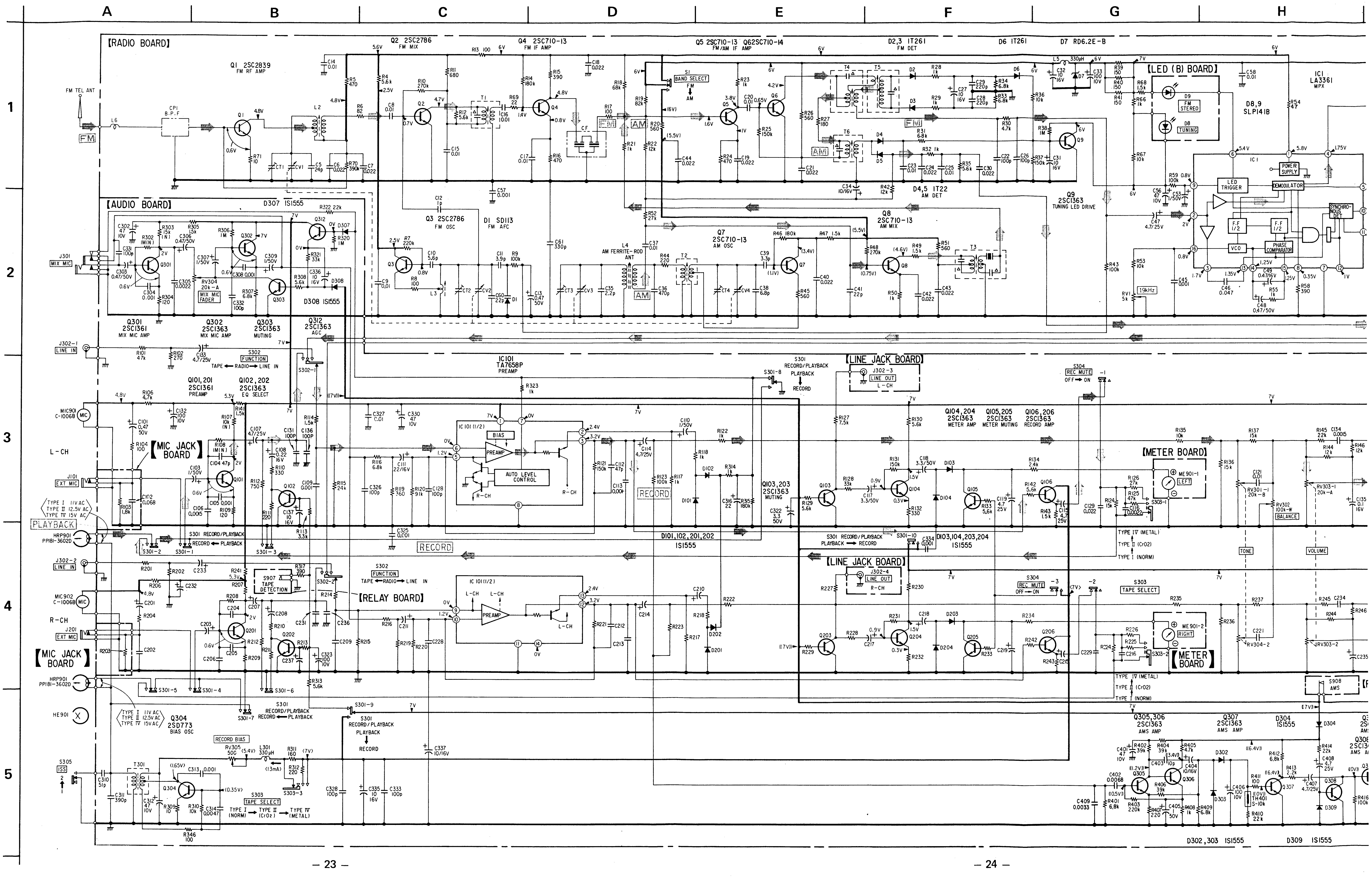

WHT
RED
(RED)(GRY)

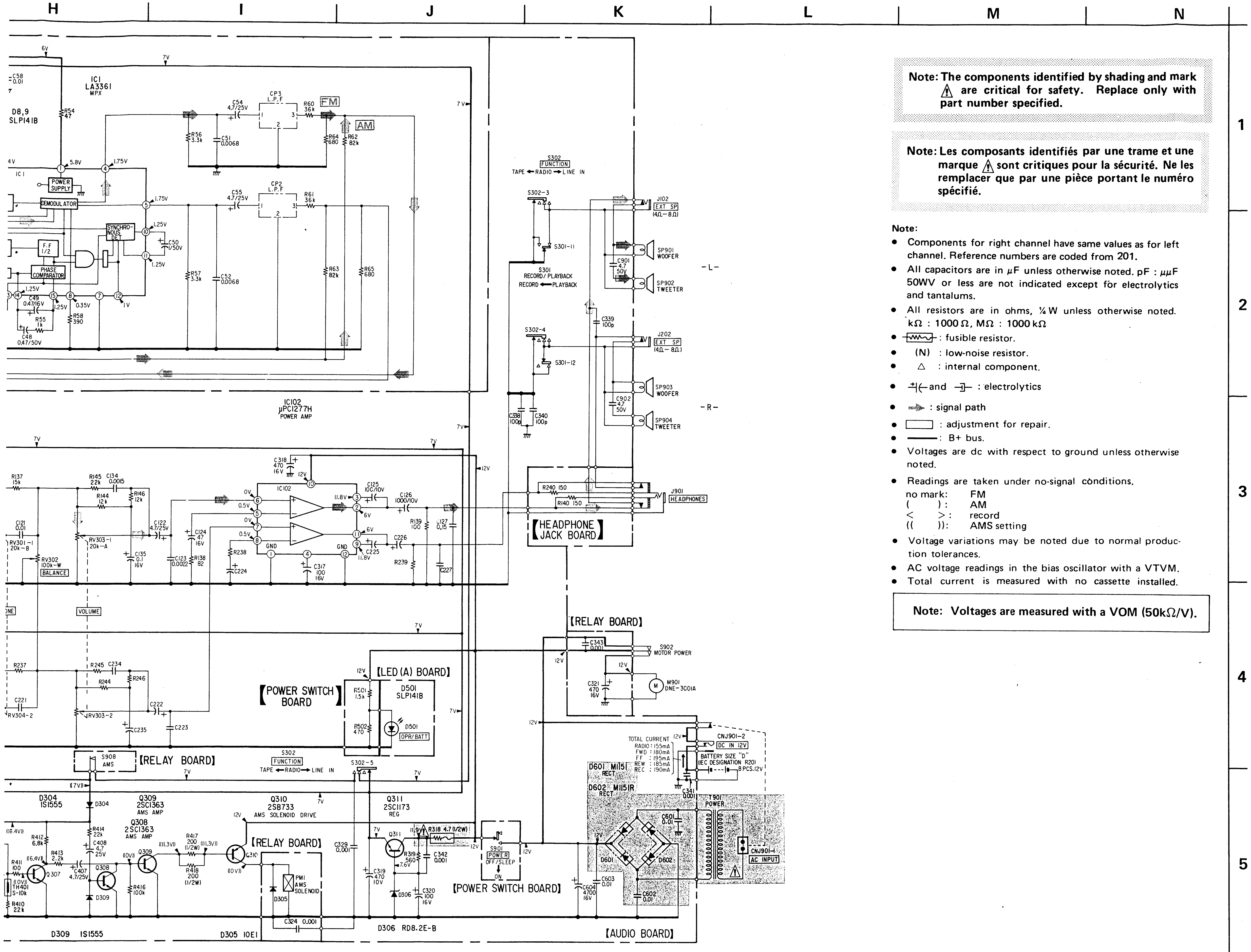
- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ☐← : indicates side identified with part number.
- Ⓕ : fusible resistor.
- ○▨○ :carbon resistor type ceramic capacitor.
- ▨ : B+ pattern
- ▬▶▬ : signal path
- ▬▶ : L-CH signal path
- ▬▶ : R-CH signal path


G
H
I
J
K
L
M
N
1
2
3
4
5
【LINE JACK BOARD】
(COMPONENT SIDE)
LINE IN
LINE OUT
R
L
J302-2
J302-1
J302-4
J302-3
EXT SP
(4Ω–8Ω)
J202
J102
BATTERY SIZE "D"
(IEC DESIGNATION R20)
8PCS. 12V
TOTAL CURRENT
RADIO : 155mA
FWD : 180mA
FF : 195mA
REW : 185mA
REC : 190mA
CNJ901-2
DC IN 12V
AC/DC SELECT
CNJ901-1
AC INPUT
J901
HEADPHONES
【HEADPHONE JACK BOARD】
(CONDUCTOR SIDE)
SP901
WOOFER
SP903
WOOFER
-L-
-R-
L-CH OUTPUT
R-CH OUTPUT
SP902
TWEETER
SP904
TWEETER
C901
4.7/50V
C902
4.7
50V
PM1
AMS SOLENOID
S908
AMS
【POWER SWITCH BOARD】
(CONDUCTOR SIDE)
ON
OFF/SLEEP
S901
POWER
T901
POWER TRANSFORMER
【RELAY BOARD】
(CONDUCTOR SIDE)
【LED (A) BOARD】
(CONDUCTOR SIDE)
D501
OPR / BATT
S902
MOTOR POWER
S907
TAPE DETECTION
ME901-1
LEFT
ME901-2
RIGHT
METER
【METER BOARD】
(CONDUCTOR SIDE)
M901
MOTOR
FRONT CABINET
TONE
BALANCE
VOLUME
RV301-1 20k-B
RV301-2 20k-B
RV302 100k-W
RV303-1 20k-A
RV303-2 20k-A
RV305 500
IC101
IC102
S305
ISS
CNP8
CNP2
L301 330μH
TH401 5-10k
WHT
RED
BLK
BLU
ORG
YEL
SONY

205	IC101	204 105	203	103 104	IC102	310	306	305	307	308	309	311 304					Q·IC
308		204 203	104	103	304			601, 602 302 303			309	306	501		305		D

4-3. SCHEMATIC DIAGRAM


A
B
C
D
E
F
G
H
1
2
3
4
5
[RADIO BOARD]
[AUDIO BOARD]
[LED (B) BOARD]
[MIC JACK BOARD]
[LINE JACK BOARD]
[METER BOARD]
[RELAY BOARD]
FM TEL ANT
FM
CP1 B.P.F
Q1 2SC2839 FM RF AMP
Q2 2SC2786 FM MIX
Q3 2SC2786 FM OSC
Q4 2SC710-13 FM IF AMP
Q5 2SC710-13 FM/AM IF AMP
Q6 2SC710-14
Q7 2SC710-13 AM OSC
Q8 2SC710-13 AM MIX
Q9 2SC1363 TUNING LED DRIVE
D1 SD113 FM AFC
D2,3 1T261 FM DET
D4,5 1T22 AM DET
D6 1T261
D7 RD6.2E-B
D8,9 SLP141B
D9 FM STEREO
D8 TUNING
IC1 LA3361 MPX
S1 BAND SELECT FM AM
L4 AM FERRITE-ROD ANT
AM
LED TRIGGER
POWER SUPPLY
DEMODULATOR
SYNCHRONOUS DET
F.F 1/2
VCO
PHASE COMPARATOR
19kHz
J301 MIX MIC
Q301 2SC1361 MIX MIC AMP
Q302 2SC1363 MIX MIC AMP
Q303 2SC1363 MUTING
Q312 2SC1363 AGC
D307 1S1555
D308 1S1555
RV304 20k-A MIX MIC FADER
J302-1 LINE IN
S302 FUNCTION TAPE ← RADIO → LINE IN
IC101 TA7658P PREAMP
Q101,201 2SC1361 PREAMP
Q102,202 2SC1363 EQ SELECT
Q103,203 2SC1363 MUTING
Q104,204 2SC1363 METER AMP
Q105,205 2SC1363 METER MUTING
Q106,206 2SC1363 RECORD AMP
MIC901 C-1006B
MIC902 C-1006B
L-CH
R-CH
J101 EXT MIC
J201 EXT MIC
TYPE I 11V AC
TYPE II 12.5V AC
TYPE IV 15V AC
PLAYBACK
RECORD
HRP901 PP18I-3602D
J302-2 LINE IN
J302-3 LINE OUT L-CH
J302-4 LINE OUT R-CH
S907 TAPE DETECTION
S301 RECORD/PLAYBACK
S301 RECORD/PLAYBACK PLAYBACK ↓ RECORD
S304 REC MUTE OFF → ON
IC 101 (1/2) BIAS PREAMP AUTO LEVEL CONTROL
IC 101 (1/2) L-CH R-CH PREAMP
D101,102,201,202 1S1555
D103,104,203,204 1S1555
ME901-1 LEFT
ME901-2 RIGHT
RV301-1 20k-B
RV302 100k-W BALANCE
RV303-1 20k-A
TONE
VOLUME
S303 TAPE SELECT
TYPE IV (METAL)
TYPE II (CrO2)
TYPE I (NORM)
S908 AMS
Q304 2SD773 BIAS OSC
RECORD BIAS RV305 50Ω
L301 330μH
S303 TAPE SELECT TYPE I (NORM) → TYPE II (CrO2) → TYPE IV (METAL)
S305 ISS
HE901
Q305,306 2SC1363 AMS AMP
Q307 2SC1363 AMS AMP
D304 1S1555
Q308 2SC1363 AMS
TH401 S-10k
D302,303 1S1555
D309 1S1555


H
I
J
K
L
M
N
1
2
3
4
5
IC1 LA3361 MPX
D8,9 SLP141B
POWER SUPPLY
DEMODULATOR
SYNCHRO-NOUS DET
F.F 1/2
PHASE COMPARATOR
CP3 L.P.F
CP2 L.P.F
FM
AM
S302 FUNCTION TAPE ← RADIO → LINE IN
S302-3
S301-11
S301 RECORD/PLAYBACK RECORD ← PLAYBACK
S302-4
S301-12
J102 EXT SP (4Ω−8Ω)
SP901 WOOFER
SP902 TWEETER
J202 EXT SP (4Ω−8Ω)
SP903 WOOFER
SP904 TWEETER
-L-
-R-
IC102 μPC1277H POWER AMP
RV302 100k-W BALANCE
RV301-1 20k-B
RV303-1 20k-A
VOLUME
RV303-2
RV304-2
J901 HEADPHONES
HEADPHONE JACK BOARD
RELAY BOARD
S902 MOTOR POWER
M901 DNE-3C01A
POWER SWITCH BOARD
LED (A) BOARD
D501 SLP141B
D501 OPR/BATT
S908 AMS
RELAY BOARD
S302 FUNCTION TAPE ← RADIO → LINE IN
S302-5
D304 1S1555
Q309 2SC1363 AMS AMP
Q308 2SC1363 AMS AMP
Q310 2SB733 AMS SOLENOID DRIVE
Q311 2SC1173 REG
RELAY BOARD
PM1 AMS SOLENOID
TH401 S-10k
S901 POWER OFF/SLEEP ON
POWER SWITCH BOARD
TOTAL CURRENT RADIO : 155mA FWD : 180mA FF : 195mA REW : 185mA REC : 190mA
CNJ901-2 DC IN 12V
BATTERY SIZE "D" (IEC DESIGNATION R20) 8 PCS.12V
D601 M1151 RECT
D602 M1151R RECT
T901 POWER
CNJ901-1 AC INPUT
D309 1S1555
D305 10E1
D306 RD8.2E-B
AUDIO BOARD

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note:

- Components for right channel have same values as for left channel. Reference numbers are coded from 201.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ─⁄⁄⁄─ : fusible resistor.
- (N) : low-noise resistor.
- △ : internal component.
- ⊣⊢ and ⊣⊢ : electrolytics
- ➡ : signal path
- ▭ : adjustment for repair.
- ── : B+ bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions.

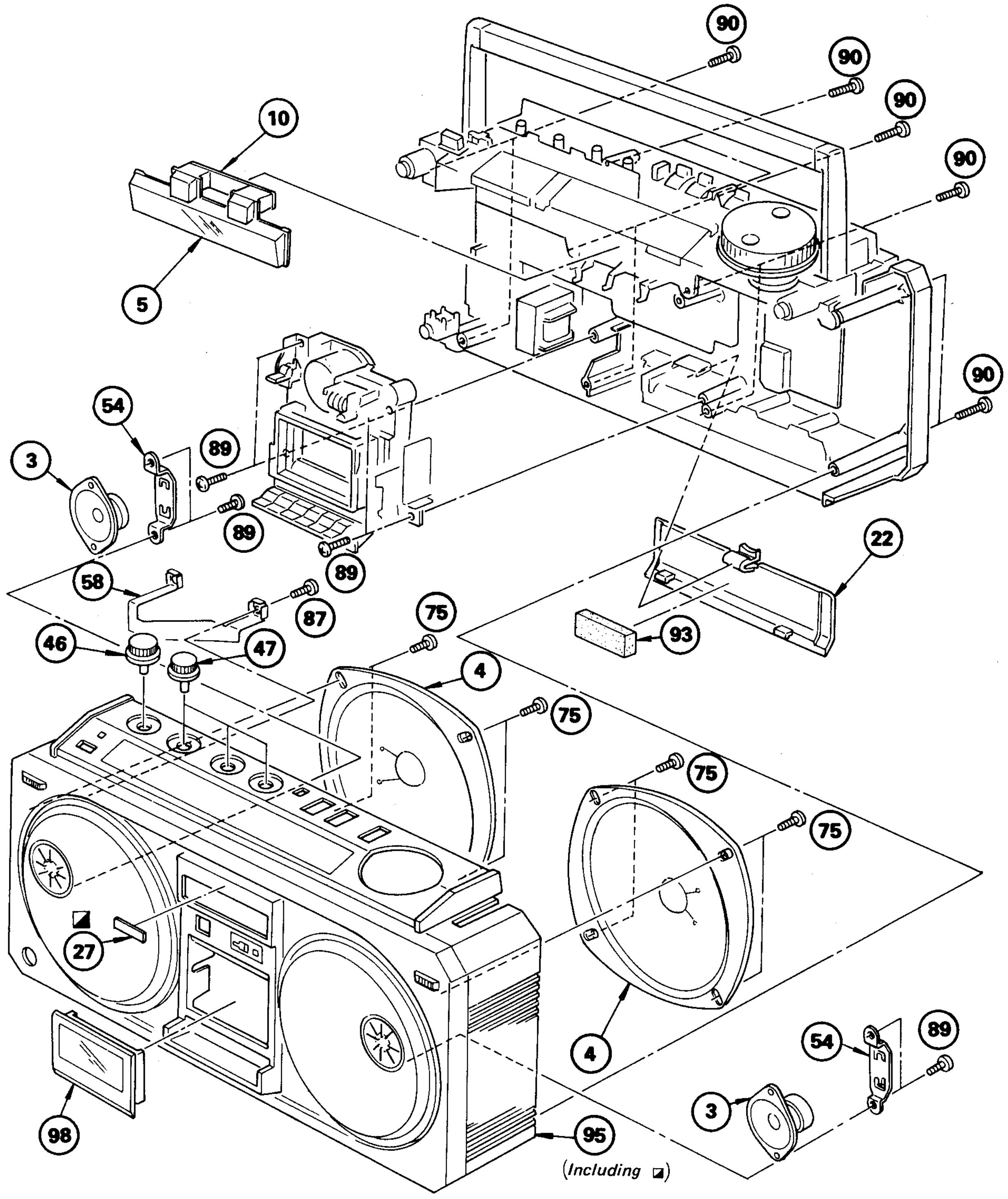
no mark: FM
( ) : AM
< > : record
(( )): AMS setting

- Voltage variations may be noted due to normal production tolerances.
- AC voltage readings in the bias oscillator with a VTVM.
- Total current is measured with no cassette installed.

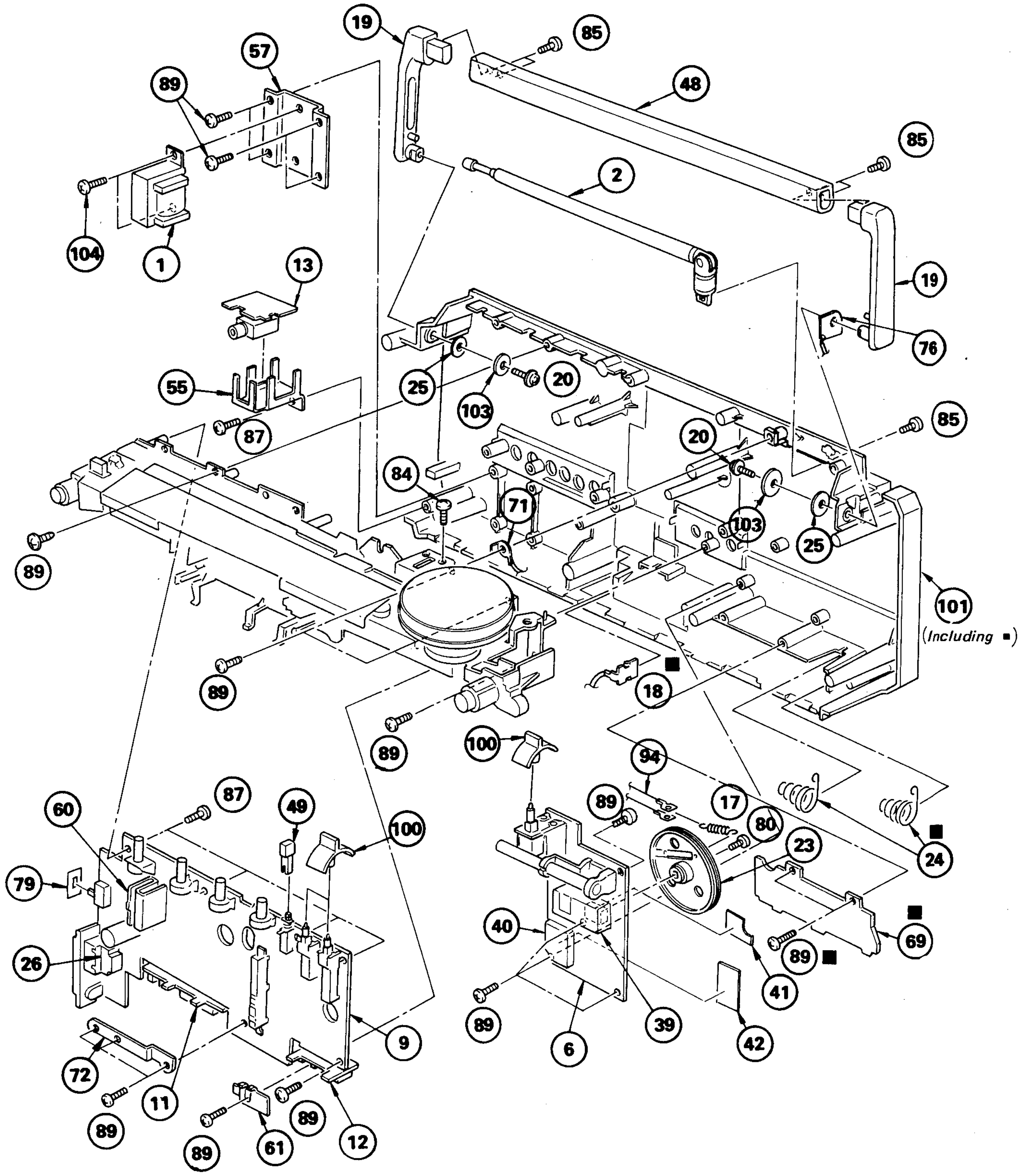
Note: Voltages are measured with a VOM (50kΩ/V).

SECTION 5
EXPLODED VIEWS AND PARTS LIST

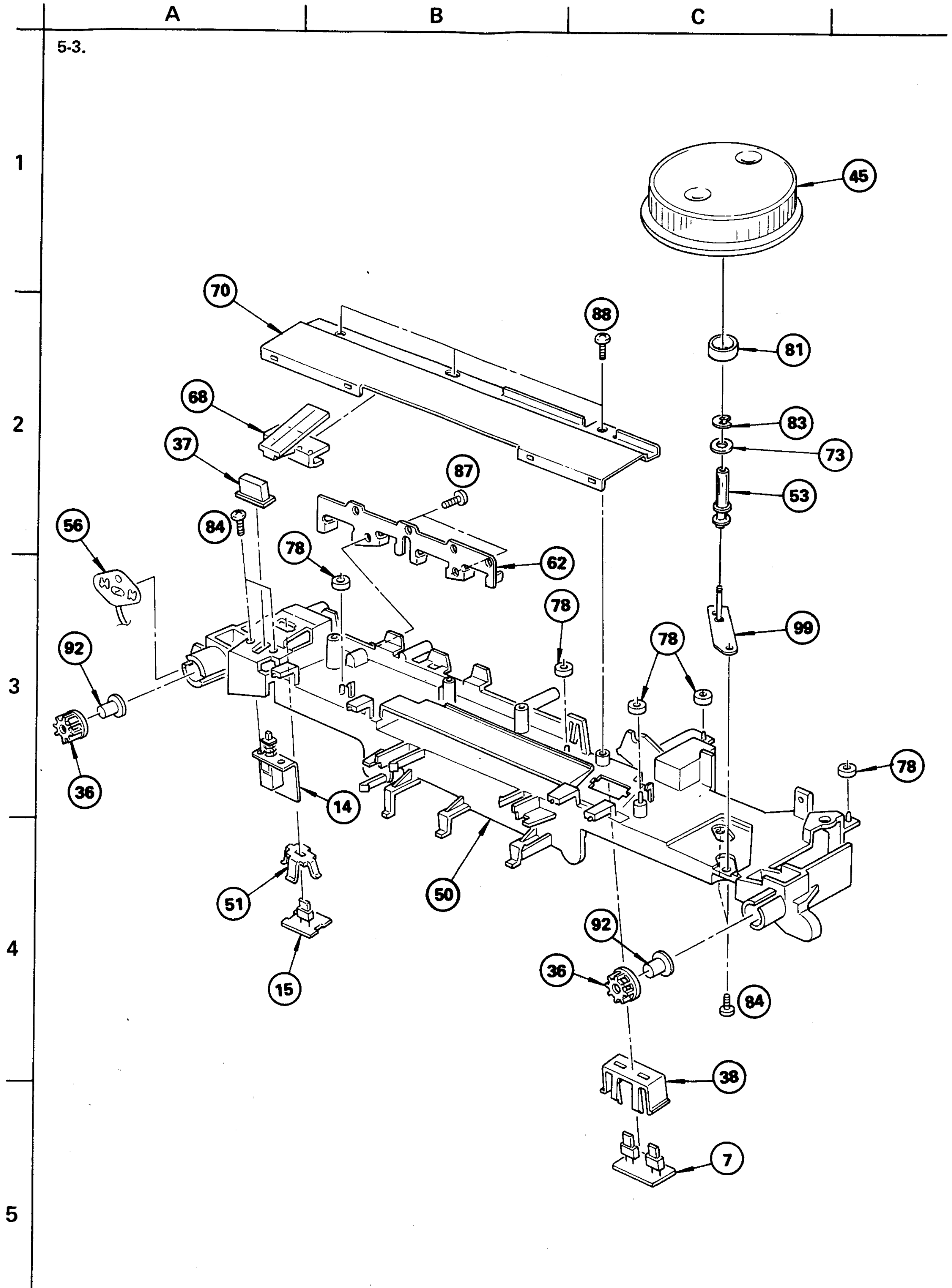
5-1.


90
90
90
90
10
5
90
54
89
3
89
89
58
87
75
46
47
4
75
93
22
75
75
27
4
3
54
89
98
95
(Including ◪)

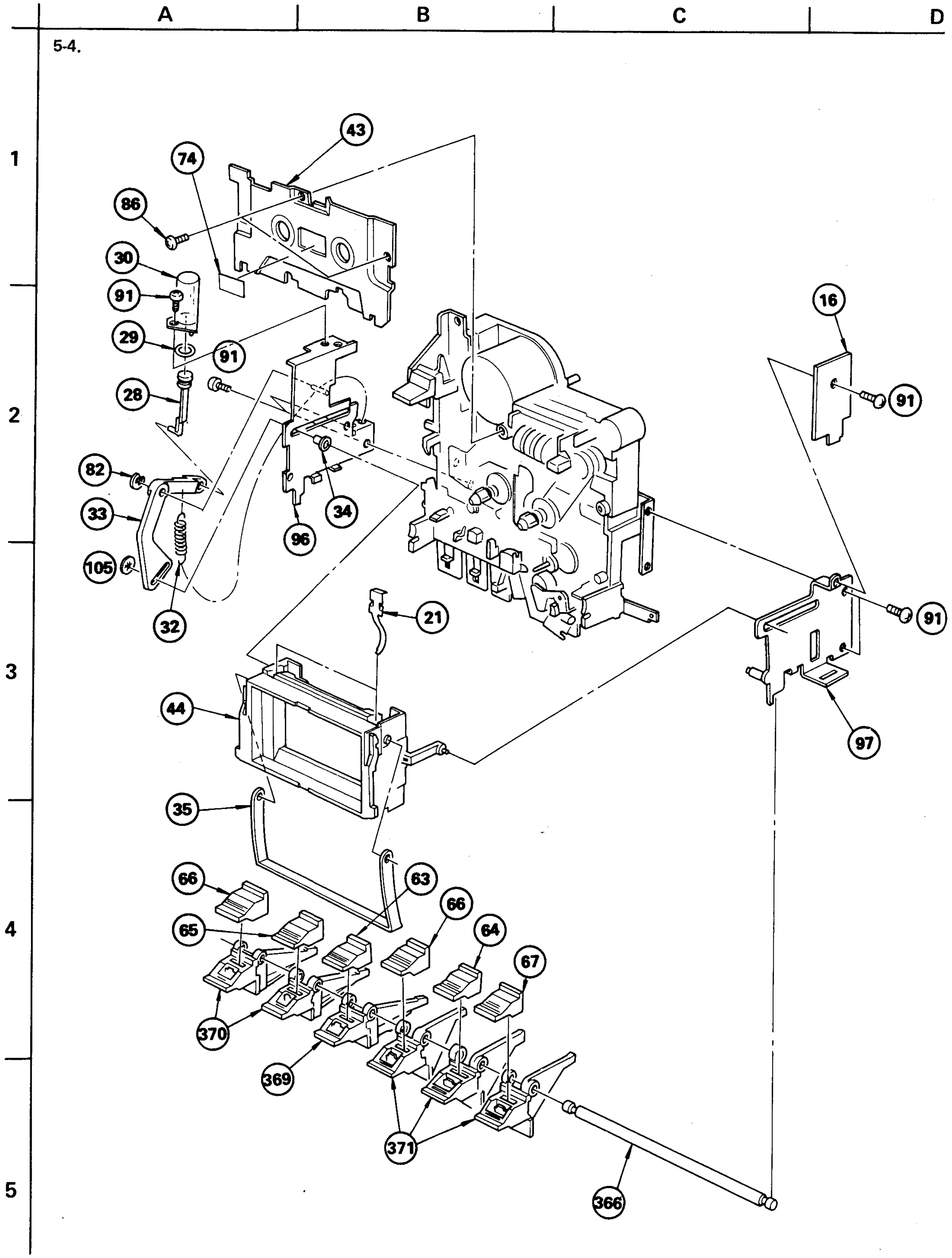
5-2.


19
85
57
89
48
85
2
104
1
13
19
76
55
87
25
103
20
85
20
84
71
103
25
89
101
(Including ■)
89
18
89
100
94
17
60
87
49
100
89
80
79
23
24
69
40
89
26
39
41
42
6
9
89
72
11
61
89
89
12

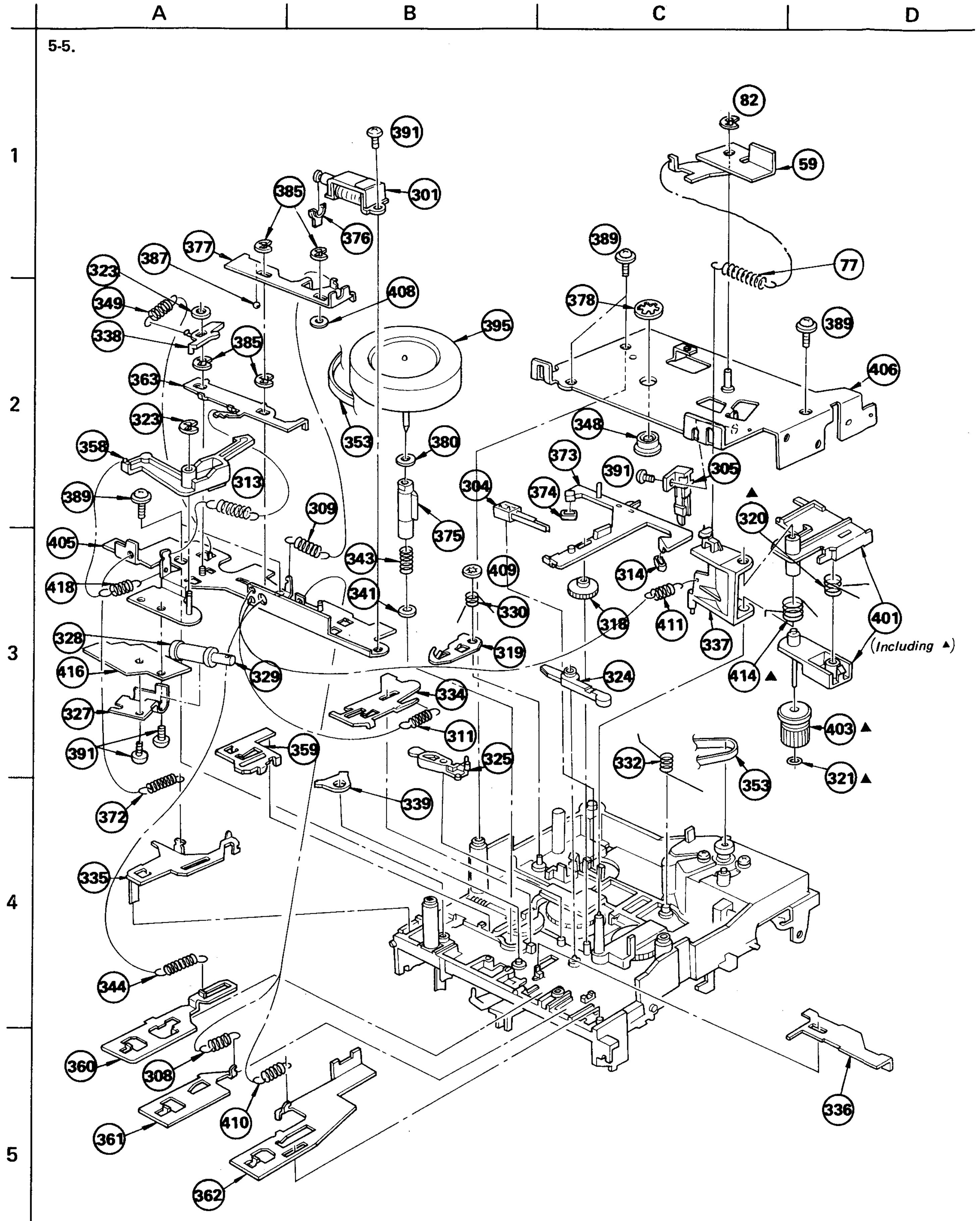
5-3.


A
B
C

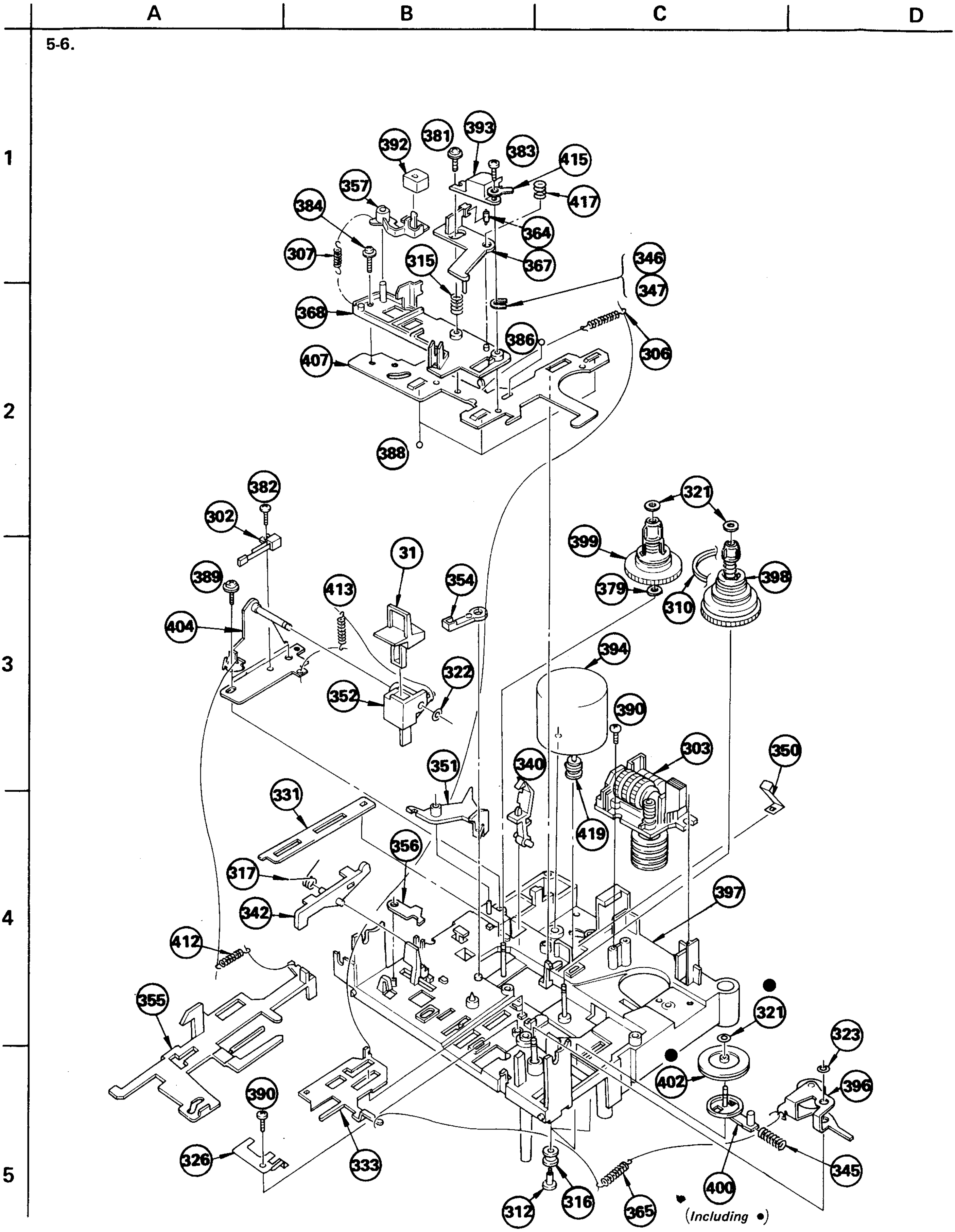
5-4.


A
B
C
D

5-5.


A
B
C
D
(Including ▲)
414 ▲
403 ▲
321 ▲

5-6.


A
B
C
D
(Including ●)

GENERAL SECTION

No.	Part No.	Description
1	⚠.1-446-756-00	TRANSFORMER, POWER (T901)
2	1-501-231-00	ANTENNA, TELESCOPIC
3	1-503-025-00	SPEAKER, TWEETER (S902,904)
4	1-503-026-00	SPEAKER, WOOFER (S901, 903)
5	1-520-437-21	METER, LEVEL (ME901)
6	♠;A-3266-134-A	MOUNTED PCB, RADIO
7	♠;1-604-669-00	PC BOARD, LED (B)
8	....	
9	♠;A-3270-075-A	MOUNTED PCB, AUDIO
10	♠;1-604-789-21	PC BOARD, METER
11	♠;1-604-791-21	PC BOARD, LINE JACK
12	♠;1-604-792-21	PC BOARD, MIC JACK
13	♠;1-604-793-21	PC BOARD, HEADPHONE JACK
14	♠;1-604-794-21	PC BOARD, POWER SWITCH
15	♠;1-604-795-21	PC BOARD, LED (A)
16	♠;1-604-796-21	PC BOARD, RELAY
17	3-430-219-00	SPRING, TENSION
18	3-538-133-00	PLATE, BATTERY CONTACT
19	3-548-910-00	PLATE, SIDE, HANDLE
20	**7-682-648-01**	**+PS3 x 8**
21	3-559-229-00	SPRING
22	3-560-438-11	LID, BATTERY CASE
23	3-565-315-00	DRUM, DIAL
24	3-566-511-00	SPRING
25	3-566-528-11	WASHER, FRICTION
26	♠;3-572-164-00	COVER, AC TERMINAL
27	3-572-504-00	EMBLEM, SONY
28	3-575-333-00	PISTON
29	3-575-360-00	RING, O
30	♠;3-576-273-00	CYLINDER, AIR
31	3-577-727-00	BUTTON, EJECT
32	3-578-476-00	SPRING
33	3-578-415-00	ARM, SE
34	....	
35	♠;3-578-418-00	ARM, CH
36	**3-565-331-00**	CUSHION, MICROPHONE
37	3-578-424-00	BUTTON, POWER
38	♠;3-578-427-00	HOLDER (TUN), LED
39	♠;3-578-443-00	PLATE (A), SHIELD
40	♠;3-578-444-00	PLATE (B), SHIELD
41	♠;3-578-445-00	PLATE (C), SHIELD
42	♠;3-578-446-00	PLATE (D), SHIELD
43	♠;3-578-454-00	COVER, MD
44	3-578-461-00	HOLDER, CASSETTE
45	A-3251-047-A	KNOB ASSY, TUNING

GENERAL SECTION

No.	Part No.	Description
46	3-578-804-00	KNOB, VOLUME
47	3-578-805-00	KNOB, TONE
48	3-578-806-00	HANDLE
49	3-578-807-00	BUTTON, REC MUTE
50	3-578-808-00	CHASSIS
51	3-578-809-00	HOLDER, POWER LED
52	....	
53	3-578-847-00	SHAFT, TUNING
54	♠;3-578-814-00	RETAINER, TWEETER
55	♠;3-578-815-00	BRACKET, HP
56	3-578-816-00	RETAINER, GROUND
57	♠;3-578-817-00	BRACKET, TRANSFORMER
58	3-578-818-00	PLATE, GROUND
59	♠;3-578-821-00	ARM, REC
60	♠;3-578-822-00	HEAT SINK
61	♠;3-578-823-00	BRACKET, JACK
62	♠;3-578-824-00	RETAINER, VOLUME
63	3-578-828-00	ORNAMENT, FWD BUTTON
64	3-578-829-00	ORNAMENT, REC BUTTON
65	3-578-830-00	ORNAMENT, STOP BUTTON
66	3-578-831-01	ORNAMENT, FRP BUTTON
67	3-578-831-11	ORNAMENT, FRP BUTTON
68	3-578-836-00	**POINTER, DIAL**
69	3-578-839-00	COVER, BATTERY
70	3-578-840-11	SCALE, DIAL
71	♠;3-578-845-00	PLATE, TERMINAL, CHASSIS
72	♠;3-578-846-00	BRACKET, P.J
73	**3-701-440-11**	**WASHER, 3.5**
74	3-701-769-00	PLATE, ORNAMENTAL
75	**3-703-137-00**	**SCREW, +PTPWH3 x 10**
76	3-578-852-00	GROUND PLATE, HANDLE
77	**3-578-851-00**	**SPRING**
78	3-817-114-00	PULLEY
79	3-831-441-XX	SHEET (I)
80	7-621-775-40	SCREW +B 2.6X8
81	3-578-848-00	COLLAR, KNOB
82	7-624-104-04	STOP RING 2.0, TYPE -E
83	**7-624-118-01**	**STOP RING 2.5, TYPE -E**
84	7-682-546-09	SCREW +B 3X5
85	7-682-549-04	SCREW +B 3X10
86	7-685-532-14	SCREW +BTP 2.6X5 TYPE2 N-S
87	7-685-647-11	SCREW +BVTP 3X10 TYPE2 N-S
88	7-685-647-19	SCREW +BVTP 3X10 TYPE2 N-S
89	7-685-648-11	SCREW +BVTP 3X12 TYPE2 N-S
90	7-685-650-11	SCREW +BVTP 3X16 TYPE2 N-S

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CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

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Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

GENERAL SECTION

No.	Part No.	Description
91	7-685-750-01	SCREW +PTT 3X5 (S)
92	**8-814-194-10**	MICROPHONE, BUILT-IN **(C-1006B)**
93	9-911-815-02	CUSHION
94	9-911-825-42	STRING, DIAL
95	A-3240-582-A	CABINET (FRONT) SUB ASSY
96	♦;X-3578-401-0	GUIDE (L) SUB ASSY, CH
97	♦;X-3578-402-0	GUIDE (R) ASSY, CH
98	X-3578-405-0	LID ASSY, CASSETTE
99	X-3578-802-0	PLATE ASSY, BEARING, TU
100	X-3578-803-1	CABINET (REAR) ASSY
101	X-3578-805-1	FUNCTION KNOB ASSY
102	....	
103	4-812-554-00	WASHER
104	7-686-247-01	PWH 3X6
105	7-624-190-31	STOP RING 4.0, TYPE-CS

ACCESSORY & PACKING MATERIAL

Part No.	Description
⚠ 1-551-504-00	CORD, POWER
3-566-582-00	BAG, PROTECTION
3-578-833-00	CUSHION (RIGHT)
3-578-834-00	CUSHION (LEFT)
3-578-854-00	INDIVIDUAL CARTON
3-701-632-00	BAG, POLYETHYLENE
3-703-390-01	INSTRUCTION
3-783-538-21	MANUAL, INSTRUCTION
3-793-828-11	QUESTIONNAIRE
3-795-201-31	(Canadian)...MANUAL, INSTRUCTION, FRENCH
8-893-528-10	(Canadian)...TAPE, DEMONSTRATION

MECHANISM SECTION

No.	Part No.	Description
301	1-454-260-00	SOLENOID, PLUNGER (PM1)
302	1-514-346-00	SWITCH, LEAF (S907)
303	1-548-545-41	COUNTER, TAPE (WITH ROTARY SW)
304	1-552-612-00	SWITCH, LEAF (S902)
305	1-552-804-00	SWITCH, LEAF (S908)
306	3-579-027-00	SPRING, TENSION
307	3-446-154-XX	SPRING, TENSION
308	3-480-160-XX	SPRING, TENSION
309	3-513-076-XX	SPRING, TENSION
310	3-527-153-XX	BELT (C)
311	3-532-725-00	SPRING, TENSION
312	3-533-254-11	SCREW, MOTOR
313	3-535-347-00	SPRING, TENSION
314	3-579-032-00	RUBBER, BRAKE
315	3-539-237-00	SPRING (3), COMPRESSION
316	3-548-886-00	CUSHION (B), MOTOR
317	3-558-606-00	SPRING
318	3-558-620-00	GEAR, REWIND
319	♦;3-578-331-00	PLATE, PAUSE LOOK
320	3-558-652-00	SPRING
321	3-558-708-01	WASHER, STOPPER
322	3-558-708-11	WASHER, STOPPER
323	3-558-708-21	WASHER, STOPPER
324	3-561-818-00	LEVER, REVIEW
325	3-561-839-00	LEVER, FF
326	3-561-852-00	SPRING
327	♦;3-561-889-00	BRACKET, CYLINDER
328	3-561-890-00	CYLINDER
329	♦;3-561-891-00	ROD
330	3-561-832-00	SPRING
331	♦;3-564-302-00	LEVER (B), RECORD PREVENTION
332	3-564-327-00	SPRING
333	♦;3-573-401-00	LEVER, RP (SS)
334	♦;3-573-402-00	LEVER, FF BUTTON (SS)
335	♦;3-573-404-00	LEVER, PAUSE BUTTON (SS)
336	♦;3-573-413-00	LEVER, REC (BSS)
337	♦;3-573-415-00	LEVER, REC (CSS)
338	3-573-426-00	LEVER (SS), RELEASE, SHUT-OFF
339	♦;3-573-427-00	LEVER, REC (ASS)
340	3-573-438-00	CLAW, RECORDING SAFETY
341	3-579-003-00	WASHER (S)
342	3-573-451-00	LEVER (SS), EJECT LOCK
343	3-573-461-00	SPRING, COMPRESSION
344	3-573-462-00	SPRING, TENSION
345	3-573-464-00	SPRING, COMPRESSION

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MECHANISM SECTION

No.	Part No.	Description
346	3-573-466-01	SPACER, HEAD
347	3-573-466-11	SPACER, HEAD
348	3-573-467-00	RETAINER (D), THRUST
349	3-573-468-00	SPRING, TENSION
350	3-579-019-00	SPRING
351	3-578-324-00	LEVER, DETECTION
352	3-578-327-00	LEVER (B), EJECT
353	3-578-328-00	BELT, CAPSTAN
354	3-578-334-00	LEVER (R), STOPPER
355	3-578-363-00	LEVER (A), EJECT
356	♠;3-578-367-00	LEVER, ERASE
357	3-578-368-00	LEVER, HEAD, ERASE
358	3-578-371-00	LEVER, RELAY, SHUT-OFF
359	♠;3-578-372-00	LEVER, BUTTON, REC
360	♠;3-578-373-00	LEVER, BUTTON, FWD
361	♠;3-578-374-00	LEVER, BUTTON, STOP
362	♠;3-578-375-00	LEVER, BUTTON, REW
363	♠;3-578-376-00	PLATE, LOCK, BUTTON
364	♠;3-578-377-00	ROLLER
365	3-579-026-00	SPRING
366	♠;3-578-379-00	SHAFT (R), BUTTON
367	3-578-381-00	TENSION (P.U)
368	3-578-382-00	BRACKET (S3), HEAD
369	3-578-383-00	BUTTON, FWD
370	3-578-384-00	BUTTON, R.S
371	3-578-385-00	BUTTON, F.R.P
372	3-578-389-00	SPRING
373	♠;3-579-001-00	BRAKE (R)
374	3-579-008-00	RUBBER (S1), BRAKE
375	3-579-016-00	PULLEY, DRIVING
376	3-579-021-00	BUSHING, INSULATING
377	♠;3-579-022-00	PLATE, LOCK, AMS
378	♠;3-638-192-00	RING, RETAINING (TYPE CS)
379	3-701-437-01	WASHER
380	3-701-438-11	WASHER, 2.5
381	3-701-465-00	SCREW, LOCK
382	7-621-772-18	SCREW +B 2X4
383	7-621-772-98	SCREW +B 2X7
384	7-621-955-15	SCREW, TOTSU PWH 2X3
385	7-624-118-01	RING, RETAINING E-2.5
386	7-671-112-01	STEEL, BALL
387	7-671-112-11	BALL, STEEL
388	7-671-113-01	STEAL, BALL 3
389	7-685-534-24	SCREW, TOTSU PTPWH 2.6X8, TYPE2
390	7-687-134-21	SCREW, TOTSU PTP 2.6X8, TYPE2

MECHANISM SECTION

No.	Part No.	Description
391	7-687-702-39	SCREW, TOTSU BTT 2.6X5
392	8-658-099-03	HEAD, ERASE ESF212-36
393	8-829-373-40	HEAD (PP181-3602D)
394	8-835-033-01	MOTOR, DC (DNE-3001A)
395	A-2109-005-A	FLYWHEEL ASSY (SS)
396	A-2110-005-A	PINCH ROLLER ASSY
397	A-3102-038-A	CHASSIS SUB ASSY, MECHANISM
398	A-3130-020-A	TABLE ASSY, REEL, T SIDE
399	A-3130-021-A	TABLE ASSY, REEL, S SIDE
400	A-3136-014-A	IDLER COMPLETE ASSY, FWD
401	A-3136-028-A	IDLER COMPLETE ASSY, FR
402	X-3561-801-0	IDLER ASSY, FWD
403	X-3563-902-0	IDLER ASSY, FR (VS2)
404	♠;X-3578-307-0	BRACKET (S3) ASSY, SWITCH
405	♠;X-3578-308-0	RETAINER (S3) ASSY, LEVER
406	♠;X-3578-314-0	RETAINER (S2) ASSY, THRUST
407	♠;X-3578-319-0	BASE ASSY, HEAD
408	7-688-003-02	WASHER 3.0
409	7-624-190-11	STOP RING 3.0, TYPE-CS
410	3-578-397-00	SPRING
411	3-535-411-00	SPRING
412	3-578-395-00	SPRING
413	3-578-398-00	SPRING
414	3-578-923-00	SPRING
415	7-623-505-01	PLATE LUG 2
416	3-578-922-00	PLATE, CYLINDER
417	3-579-033-00	SPRING
418	3-535-355-00	SPRING
419	X-3564-301-4	MOTOR PULLEY ASSY

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C10	1-161-276-00	CERAMIC	5.6PF	10%	50V
C11	1-161-274-00	CERAMIC	3.9PF	10%	50V
C28	1-161-315-00	CERAMIC	220PF	10%	50V
C29	1-161-315-00	CERAMIC	220PF	10%	50V
C35	1-161-251-00	CERAMIC	2.2PF	10%	50V
C36	1-161-319-00	CERAMIC	470PF	10%	50V
C38	1-161-257-00	CERAMIC	6.8PF	10%	50V
C39	1-161-253-00	CERAMIC	3.3PF	10%	50V
C45	1-130-018-00	FILM	0.001MF	5%	50V
C57	1-161-323-00	CERAMIC	0.001MF	10%	50V
C60	1-161-283-00	CERAMIC	22PF	5%	50V
C102	1-108-249-00	MYLAR	0.068MF	10%	50V
C105	1-161-323-00	CERAMIC	0.001MF	10%	50V
C113	1-161-323-00	CERAMIC	0.001MF	10%	50V
C202	1-108-249-00	MYLAR	0.068MF	10%	50V
C205	1-161-323-00	CERAMIC	0.001MF	10%	50V
C213	1-161-323-00	CERAMIC	0.001MF	10%	50V
C304	1-161-323-00	CERAMIC	0.001MF	10%	50V
C308	1-161-323-00	CERAMIC	0.001MF	10%	50V
C313	1-161-323-00	CERAMIC	0.001MF	10%	50V
C324	1-161-323-00	CERAMIC	0.001MF	10%	50V
C325	1-161-323-00	CERAMIC	0.001MF	10%	50V
C329	1-161-323-00	CERAMIC	0.001MF	10%	50V
C334	1-161-323-00	CERAMIC	0.001MF	10%	50V
C601 ⚠	**1-161-379-00**	**CERAMIC**	**0.01MF**	**20%**	**25V**
C602 ⚠	**1-161-379-00**	**CERAMIC**	**0.01MF**	**20%**	**25V**
C901	1-119-427-00	ELECT	4.7MF		50V
C902	1-119-427-00	ELECT	4.7MF		50V
CF	1-527-795-71	FILTER, CERAMIC			
CNJ1 ♠;	1-561-674-00	SOCKET, CONNECTOR 4P			
CNJ2 ♠;	1-561-679-00	SOCKET, CONNECTOR 9P			
CNJ3 ♠;	1-561-675-00	SOCKET, CONNECTOR 5P			
CNJ4 ♠;	1-561-674-00	SOCKET, CONNECTOR 4P			
⚠CNJ901.	1-561-213-00	INLET, AC-DC			
CNP1 ♠;	1-560-557-00	PIN, CONNECTOR 4P			
CNP2 ♠;	1-560-562-00	PIN, CONNECTOR 9P			
CNP3 ♠;	1-560-558-00	PIN, CONNECTOR 5P			
CNP4 ♠;	1-560-557-00	PIN, CONNECTOR 4P			
CP1	1-231-720-00	FILTER, BANDPASS			
CP2	1-231-224-00	CR ENCAPSULATED COMPONENT			
CP3	1-231-224-00	CR ENCAPSULATED COMPONENT			
CT1-4					
CV1-4	1-151-382-00	CAP, TUNING, POLYETHYLENE			
D1	8-719-768-71	DIODE 1S2687S1			
D2	8-719-026-11	DIODE 1T261			
D3	8-719-026-11	DIODE 1T261			
D4	8-719-422-21	DIODE 1T22AM			
D5	8-719-422-21	DIODE 1T22AM			
D6	8-719-026-11	DIODE 1T261			
D7	8-719-162-07	DIODE RD6.2E			
D8	8-719-900-41	DIODE SLP141B			
D9	8-719-900-41	DIODE SLP141B			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D101	8-719-815-55	DIODE 1S1555
D102	8-719-815-55	DIODE 1S1555
D103	8-719-815-55	DIODE 1S1555
D104	8-719-815-55	DIODE 1S1555
D201	8-719-815-55	DIODE 1S1555
D202	8-719-815-55	DIODE 1S1555
D203	8-719-815-55	DIODE 1S1555
D204	8-719-815-55	DIODE 1S1555
D302	8-719-815-55	DIODE 1S1555
D303	8-719-815-55	DIODE 1S1555
D304	8-719-815-55	DIODE 1S1555
D305	8-719-200-02	DIODE 10E2
D306	8-719-182-07	DIODE RD8.2E
D307	8-719-815-55	DIODE 1S1555
D308	8-719-815-55	DIODE 1S1555
D309	8-719-815-55	DIODE 1S1555
D501	8-719-900-41	DIODE SLP141B
D601 ⚠	8-719-500-34	DIODE S3VC40
D602 ⚠	8-719-501-34	DIODE S3VC40R
IC1	8-759-833-61	IC LA3361
IC101	8-759-276-58	IC TA7658P
IC102	8-759-112-77	IC UPC1277H
J101	1-507-678-21	JACK
J102	1-507-678-21	JACK
J201	1-507-678-21	JACK
J202	1-507-678-21	JACK
J301	1-507-643-00	JACK
J302	1-561-332-00	JACK, 4P-PIN
J901	1-507-670-00	JACK
L2	1-425-632-00	COIL, RF (FM)
L3	1-459-266-00	COIL, WITH CORE
L4	1-401-788-00	ANTENNA, FERRITE-ROD (MW)
L5	1-408-201-00	MICRO INDUCTOR 330UH
L6	1-401-526-00	COIL, ANTENNA
L301	1-408-135-00	MICRO INDUCTOR 330UH
Q1	8-729-883-92	TRANSISTOR 2SC2839
Q2	8-729-167-42	TRANSISTOR 2SC1674
Q3	8-729-167-42	TRANSISTOR 2SC1674
Q4	8-729-671-13	TRANSISTOR 2SC710-13
Q5	8-729-671-13	TRANSISTOR 2SC710-13
Q6	8-729-671-14	TRANSISTOR 2SC710-14
Q7	8-729-671-13	TRANSISTOR 2SC710-13
Q8	8-729-671-13	TRANSISTOR 2SC710-13
Q9	8-729-663-47	TRANSISTOR 2SC1364
Q101	8-729-665-47	TRANSISTOR 2SC1362
Q102	8-729-663-47	TRANSISTOR 2SC1364
Q103	8-729-663-47	TRANSISTOR 2SC1364
Q104	8-729-663-47	TRANSISTOR 2SC1364
Q105	8-729-663-47	TRANSISTOR 2SC1364
Q106	8-729-663-47	TRANSISTOR 2SC1364

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- All capacitors are in µF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:µF, PF:µµF.

RESISTORS

- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS

- MMH : mH, UH : µH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
Q201	8-729-665-47	TRANSISTOR 2SC1362				
Q202	8-729-663-47	TRANSISTOR 2SC1364				
Q203	8-729-663-47	TRANSISTOR 2SC1364				
Q204	8-729-663-47	TRANSISTOR 2SC1364				
Q205	8-729-663-47	TRANSISTOR 2SC1364				
Q206	8-729-663-47	TRANSISTOR 2SC1364				
Q301	8-729-665-47	TRANSISTOR 2SC1362				
Q302	8-729-663-47	TRANSISTOR 2SC1364				
Q303	8-729-663-47	TRANSISTOR 2SC1364				
Q304	8-729-177-32	TRANSISTOR 2SD773				
Q305	8-729-663-47	TRANSISTOR 2SC1364				
Q306	8-729-663-47	TRANSISTOR 2SC1364				
Q307	8-729-663-47	TRANSISTOR 2SC1364				
Q308	8-729-663-47	TRANSISTOR 2SC1364				
Q309	8-729-663-47	TRANSISTOR 2SC1364				
Q310	8-729-113-32	TRANSISTOR 2SB733				
Q311	8-729-217-33	TRANSISTOR 2SC1173				
Q312	8-729-663-47	TRANSISTOR 2SC1364				
R318 ⚠	1-212-950-00	FUSIBLE	4.7	5%	1/2W	F
R417	1-202-556-00	COMPOSITION	200	5%	1/2W	
R418	1-202-556-00	COMPOSITION	200	5%	1/2W	
RV1	1-226-235-00	RES, ADJ, CARBON 5K				
RV301	1-228-256-00	RES, VAR, CARBON 20K/20K				
RV302	1-226-749-21	RES, VAR, CARBON 100K				
RV303	1-226-903-00	RES, VAR, CARBON 20K/20K				
RV304	1-226-748-21	RES, VAR, CARBON 20K				
RV305	1-226-232-00	RES, ADJ, CARBON 500				
S1	1-553-699-00	SWITCH, LEVER SLIDE				
S301	1-553-698-00	SWITCH, SLIDE				
S302	1-552-858-00	SWITCH, SLIDE				
S303	1-552-859-00	SWITCH, LEVER SLIDE				
S304	1-553-613-00	SWITCH, PUSH				
S305	1-552-844-21	SWITCH, SLIDE				
S901	1-552-533-00	SWITCH, PUSH				
T1	1-403-872-00	I.F.T				
T2	1-405-655-00	COIL, MW OSCILLATOR				
T3	1-403-163-21	CERAMIC FILTER				
T4	1-403-952-00	TRANSFORMER, DISCRIMINATOR				
T5	1-403-953-00	TRANSFORMER, DISCRIMINATOR				
T6	1-404-041-00	COIL, AM				
T301	1-433-222-00	TRANSFORMER, BIAS OSCILLATOR				
TH401	1-800-202-XX	THERMISTOR S-10K				

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:

- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS

- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTROLYTIC CAPACITORS

CAP. (μF)	RATING				→ : Use the high voltage rated one.	
	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47					→	1-121-726-00
1.0					→	1-121-391-00
2.2					→	1-121-450-00
3.3	→	→	→	1-121-392-00	→	1-121-393-00
4.7	→	→	→	1-121-395-00	→	1-121-396-00
10	→	→	1-121-651-00	1-121-398-00	→	1-121-738-00
22	→	→	1-121-479-00	1-121-480-00	1-121-662-00	1-121-152-00
33	→	→	1-121-403-00	1-121-404-00	1-121-652-00	1-121-405-00
47	→	1-121-352-00	1-121-409-00	1-121-410-00	1-121-653-00	1-121-411-00
100	→	1-121-414-00	1-121-415-00	1-121-416-00	1-121-357-00	1-121-417-00
220	1-121-419-00	1-121-420-00	1-121-421-00	1-121-422-00	1-121-261-00	1-121-423-00
330	1-121-751-00	1-121-805-00	1-121-521-00	1-121-654-00	1-121-655-00	1-121-656-00
470	1-121-424-00	1-121-425-00	1-121-426-00	1-121-733-00	1-121-361-00	1-121-810-00
1000	–	1-121-736-00	1-121-245-00	1-121-657-00	1-121-388-00	1-123-061-00
2200	1-121-658-00	1-121-659-00	1-121-660-00	1-123-067-00	1-121-984-00	–
3300	1-121-661-00	1-123-075-00	1-123-071-00	–	–	–

CAP. (μF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	–	–	–	–
1.0	1-123-249-00	1-123-252-00	1-123-003-00	1-121-168-00
2.2	1-123-250-00	1-123-026-00	–	1-123-028-00
3.3	1-121-995-00	–	1-123-004-00	1-123-006-00
4.7	1-123-255-00	1-121-246-00	1-121-759-00	1-123-007-00
10	1-121-126-00	1-121-999-00	1-123-254-00	1-123-008-00
22	1-121-996-00	1-123-253-00	1-123-005-00	1-123-022-00
33	1-121-997-00	1-121-757-00	–	–
47	1-123-251-00	1-121-919-00	–	–
100	1-123-084-00	–	–	–

CERAMIC CAPACITORS

	RATING						
CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (μF)	50 VOLT.
	PART No.		PART No.		PART No.		PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

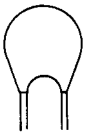
0.001μF = 1,000pF

CERAMIC (SEMICONDUCTOR) CAPACITORS

	RATING				→ : Use the high voltage rated one.
CAP. (μF)	25 VOLT.	50 VOLT.	CAP. (μF)	25 VOLT.	50 VOLT.
	PART No.	PART No.		PART No.	PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

MYLAR CAPACITORS

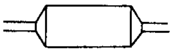
	RATING										
CAP. (µF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (µF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (µF)	50 VOLT.	100 VOLT.	200 VOLT.
	PART No.	PART No.	PART No.		PART No.	PART No.	PART No.		PART No.	PART No.	PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	–	–
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	–	–
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	–	–
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	–	–
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				



TANTALUM CAPACITORS

	RATING				→ : Use the high voltage rated one.		
CAP. (µF)	3.15 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	25 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.01					→	→	1-131-396-00
0.015						→	1-131-397-00
0.022						→	1-131-398-00
0.033						→	1-131-399-00
0.047						→	1-131-400-00
0.068					→	→	1-131-401-00
0.1					→	→	1-131-402-00
0.15					→	→	1-131-403-00
0.22					→	→	1-131-404-00
0.33					→	1-131-409-00	1-131-405-00
0.47	–	–	–	–	1-131-412-00	→	1-131-406-00
0.68	–	–	–	1-131-415-00	→	1-131-410-00	1-131-407-00
1.0	–	–	1-131-418-00	–	1-131-413-00	→	1-131-408-00
1.5	–	1-131-421-00	–	1-131-416-00	→	1-131-411-00	1-131-348-00
2.2	1-131-424-00	–	1-131-419-00	–	1-131-414-00	1-131-355-00	1-131-349-00
3.3	–	1-131-422-00	–	1-131-417-00	1-131-362-00	1-131-356-00	1-131-350-00
4.7	1-131-425-00	–	1-131-420-00	1-131-369-00	1-131-363-00	1-131-357-00	1-131-351-00
6.8	–	1-131-423-00	1-131-376-00	1-131-370-00	1-131-364-00	1-131-358-00	1-131-352-00
10	1-131-426-00	1-131-383-00	1-131-377-00	1-131-371-00	1-131-365-00	1-131-359-00	1-131-353-00
15	1-131-390-00	1-131-384-00	1-131-378-00	1-131-372-00	1-131-366-00	1-131-360-00	–
22	1-131-391-00	1-131-385-00	1-131-379-00	1-131-373-00	1-131-367-00		
33	1-131-392-00	1-131-386-00	1-131-380-00	1-131-374-00			
47	1-131-393-00	1-131-387-00	1-131-381-00	–			
68	1-131-394-00	1-131-388-00	–	–			
100	1-131-395-00	–	–	–			

TANTALUM CAPACITORS



	RATING					
CAP. (µF)	3 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.033						1-131-273-00
0.047						1-131-274-00
0.068						1-131-275-00
0.1						1-131-276-00
0.15						1-131-277-00
0.22			–	–	1-131-262-00	1-131-278-00
0.33			–	–	1-131-263-00	1-131-279-00
0.47			1-131-169-00	–	1-131-264-00	1-131-280-00
0.68			–	1-131-258-00	1-131-265-00	1-131-281-00
1.0			1-131-254-00	–	1-131-266-00	1-131-282-00
1.5		1-131-250-00	–	–	1-131-267-00	1-131-283-00
2.2		–	–	1-131-259-00	1-131-268-00	1-131-284-00
3.3		–	1-131-255-00	–	1-131-269-00	–
4.7		1-131-251-00	1-131-171-00	–	1-131-270-00	–
6.8		–	–	1-131-260-00	1-131-271-00	–
10	–	–	1-131-256-00	–	1-131-272-00	–
15	–	1-131-252-00	–	1-131-261-00		
22	–	–	1-131-257-00	–		
33	1-131-176-00	1-131-253-00	1-131-173-00	–		
47	1-131-288-00	1-131-174-00	–	–		
100	1-131-177-00					

1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw: – P 3 x 10

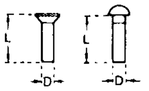
L: Length in mm

D: Diameter in mm

Type of head

Indicated slotted-head only.

Unless otherwise indicated, it means cross-recessed head (Phillips type).



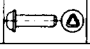
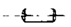
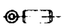
Nut, Washer, Retaining ring:

N 3

Diameter of usable screw or shaft

Reference designation

Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	

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